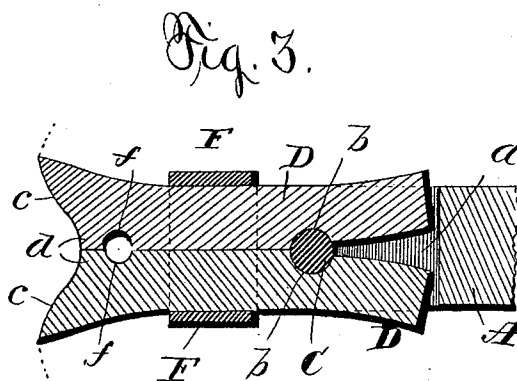
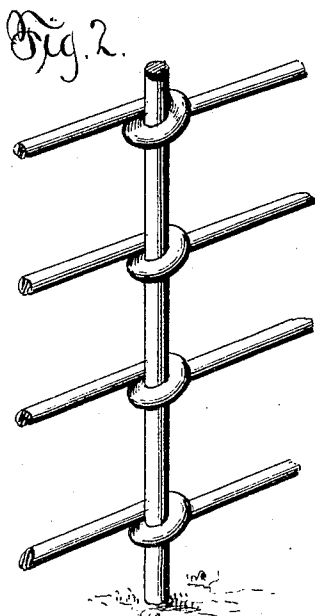
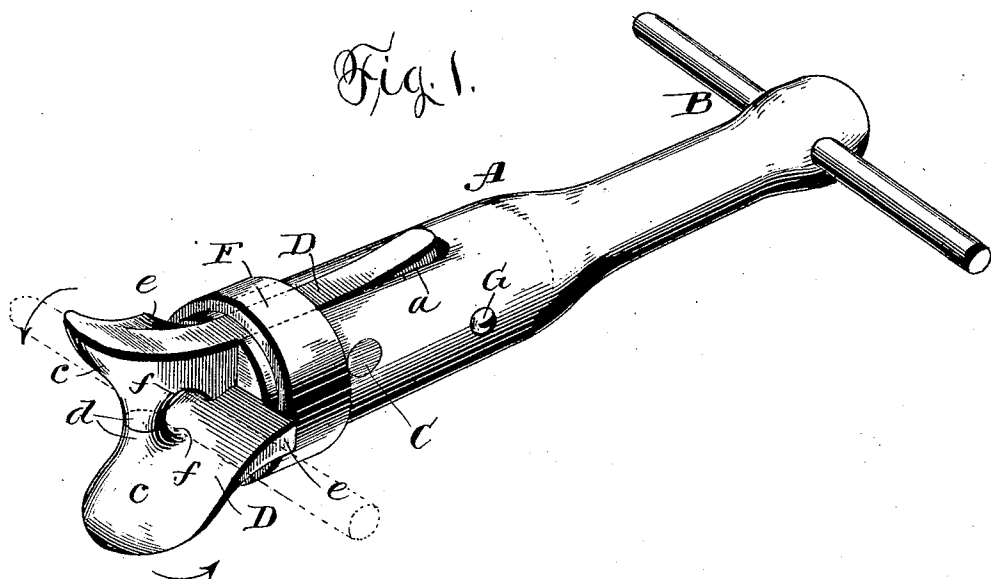


(No Model.)

W. TIBBALS.
WIRE TIGHTENER AND LOOP FORMER.

No. 464,534.

Patented Dec. 8, 1891.



Witnesses:
B. J. Williamson.
P. J. Rogers.

Inventor
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att'y.

UNITED STATES PATENT OFFICE.

WALLACE TIBBALS, OF LYTLE, OHIO.

WIRE-TIGHTENER AND LOOP-FORMER.

SPECIFICATION forming part of Letters Patent No. 464,534, dated December 8, 1891.

Application filed August 24, 1891. Serial No. 403,588. (No model.)

To all whom it may concern:

Be it known that I, WALLACE TIBBALS, a citizen of the United States, residing at Lytle, in the county of Warren and State of Ohio, have invented certain new and useful Improvements in Wire-Tighteners and Loop-Formers; 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 certain new and useful improvements in devices for forming loops or coils in wire fences and for tightening the fence.

It relates more particularly to that class of devices for this purpose which are provided with jaws and a ring designed to be slipped over the jaws to hold them in their closed position.

It has for its objects among others to provide a simple, cheap, and durable device of this character, in which the jaws shall be protected from injury or from being twisted or distorted in the operation of the device.

I provide a shank with an aperture in which the jaws are designed to work, the said jaws being fulcrumed on a transverse pin held in the shank, the jaws having notches or recesses upon their adjacent faces partially to embrace the said pin. The jaws are readily removable. They are not perforated by the pin or for its passage, and they are held from displacement by a sliding ring, which is designed also to hold the jaws in their closed position, or, by sliding it upon the shank, permit the jaws to open. A stop-pin serves not only to limit the movement of the slidable ring, but it prevents displacement of the jaws by preventing the movement of the ring past the ends of the jaws. The shoulders on the outer ends of the jaws prevent its removal in the opposite direction.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the let-

ters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of my improved device. Fig. 2 is a like view of a section of fence, showing the style of loop it is designed to form with the instrument. Fig. 3 is a cross-section through the jaws at their pivot.

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

Referring now to the details of the drawings by letter, A designates the shank of the device, which may be of any suitable or desired size and material of sufficient length to be easily operated, and preferably provided with a cross-pin or handle B, which may, however, be of any desired form other than that shown in the drawings. This shank is bifurcated at one end or provided with a longitudinal recess or chamber extending from side to side, and of sufficient length to accommodate the jaws, as shown. This recess *a* is rounded at the inner end.

C is a pin held in the opposite walls of the recess about centrally of the length of the recess. It extends across the said recess.

D are the jaws, each provided with a shank which fits loosely in the recess of the shank A and has its inner end rounded to correspond with the curvature of the bottom of the recess and to permit of ready movement of the jaws. About midway of the length of the shanks of the jaws they are provided upon their adjacent faces with curved notches or grooves *b*, adapted to the pin C, as shown, and one embraces the pin upon one side and the other upon the other side, turning thereon as a fulcrum. The outer ends of the jaws are flared, as shown at *c*, and provided with nibs *d*, which are designed to meet when the jaws are closed. They are each further provided with a shoulder *e*, the shoulders of the two jaws being upon opposite sides, and they serve two purposes: first, to prevent displacement of the ring hereinafter described, and, second, to bear against the end of the shank and limit the movement of the jaw and relieve the fulcrum of the strain. The jaws are further provided near their ends with curved grooves *f* for the reception of the wire, and also with curved flanges for throwing the loop off over the end.

F is a ring adapted to be slipped and moved upon the shank A. It is confined between the shoulders of the outer ends of the jaws and the stop-pin or screw G, which is
5 removably held in the shank A at such a point as to prevent the ring being slipped far enough back to entirely disengage the shanks of the jaws.

The operation will be readily understood
10 from the foregoing description, when taken in connection with the annexed drawings, and a further detailed description thereof is not deemed necessary. Fig. 2 shows the form of
15 loop which it is designed to produce with the implement. The arrangement of the shanks of the jaws in a recess of the shank A is deemed of special importance, as it greatly strengthens the jaws and prevents their being twisted
20 or distorted in use. The shoulders on the jaws are also of prime importance.

What I claim as new is—

1. The combination, with the recessed
25 shank, of the pin held in the shank and extended across the recess, the jaws each having its shank provided with a curved recess

partially to embrace the pin, and the ring slidable upon the shank, as set forth.

2. The combination, with the shank, of the jaws pivoted therein upon a pin held in the shank and seated in curved notches in the
3 jaws, said jaws being formed with oppositely-disposed shoulders and curved flanges, and the ring slidable upon the shank, as and for the purpose specified.

3. The combination, with the recessed shank
3 and the jaws fulcrumed in the recess upon a pin held in the shank and seated in curved notches in the jaws and provided with oppositely-disposed shoulders and curved flanges, of the ring slidable on the shank and the removable stop in the shank at the inner end
4 of the jaws, substantially as and for the purpose specified.

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

WALLACE TIBBALS.

Witnesses:

W. N. REYBURN,

C. D. WOOLLEY.