

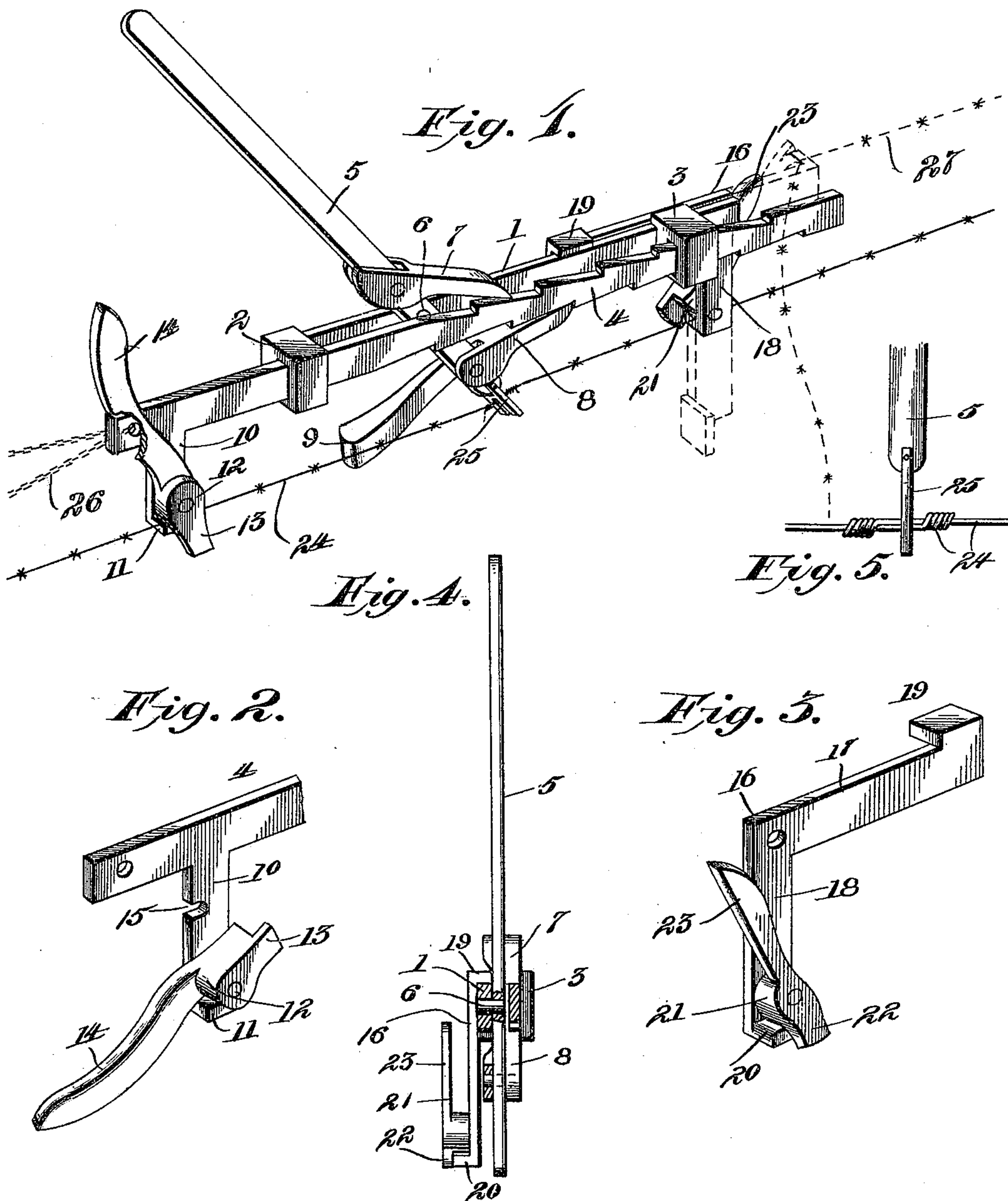
No. 641,882.

Patented Jan. 23, 1900.

J. L. OLSON.
WIRE STRETCHER.

(Application filed Aug. 23, 1899.)

(No Model.)



Witnesses

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JOHN LAURIS OLSON, OF CRANFILL'S GAP, TEXAS.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 641,882, dated January 23, 1900.

Application filed August 23, 1899. Serial No. 728,235. (No model.)

To all whom it may concern:

Be it known that I, JOHN LAURIS OLSON, a citizen of the United States, residing at Cranfill's Gap, in the county of Bosque and State of Texas, have invented a new and useful Wire-Stretcher, of which the following is a specification.

This invention relates to wire-stretchers, and has for its object to provide a simple and improved device which is applicable both as a mid-wire take-up and to stretch a wire at the free end thereof. It is also designed to provide improved means for clamping the wire to the device, whereby the latter is capable of different applications, and, furthermore, to arrange the operating means within convenient reach of the operator, and is adapted to move the opposite wire-clamping devices longitudinally of the stretcher, whereby the wire may be stretched.

To these ends the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and the minor details of construction may be made within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of a wire-stretcher constructed in accordance with the present invention. Figs. 2 and 3 are detail perspective views of the respective opposite wire-clamping devices detached from the stretcher. Fig. 4 is a transverse sectional view taken in the plane of the operating handle or lever of Fig. 1. Fig. 5 is an enlarged detail view of the splicing-vise.

Corresponding parts in the several figures of the drawings are designated by like characters of reference.

Referring to the accompanying drawings, 1 designates the main bar of the stretcher, which is provided at opposite ends with longitudinally-alined guide-loops 2 and 3, respectively, which project laterally at the same side of the bar. The loop 2 is located at the extremity of the bar; but the opposite loop is disposed inward from the adjacent end, so as to accommodate one of the wire-clamping devices.

Slidable longitudinally through the guide-loops and alongside of the main bar is a double ratchet-bar 4, which is longer than the main bar and adapted to project beyond opposite ends thereof.

Located between the main bar and the ratchet-bar and intermediate of the opposite loops is an operating-lever 5, which is mounted intermediate of its ends upon a suitable pivot-pin 6, carried by the main bar. It will be understood that the guide-loops are offset to one side of the main bar, so as to dispose the ratchet-bar at one side thereof to accommodate the operating-lever. Provided upon the lever at points above and below the ratchet-bar are the upper and lower pivoted dogs 7 and 8, respectively, the lower dog being provided with a rearwardly-extending weighted arm 9 for normally maintaining the opposite active end of the dog in engagement with the teeth of the ratchet-bar. It will be seen that the teeth of the ratchet are formed upon the upper and lower edges of the bar, so that the upper dog 7 is maintained in engagement with the upper series of teeth by the force of gravity.

One end of the ratchet-bar, which I will designate the "rear" end, is provided with a pendent arm 10, which is located inward from the extremity of the bar, and is provided at its lower end with a laterally-disposed flange or foot 11, which projects outwardly away from the main bar. Pivoted eccentrically to the foot side of the pendent arm is a clamp 12, which is provided with a guard-flange 13, overlapping the outer end of the foot, and also an operating-handle 14, extending oppositely from the guard-flange. As best shown in Fig. 2, the rear edge of the pendent arm 10 is provided with a notch 15, adapted to receive a wire, which may be cut off by means of the handle 14 of the wire-clamp, as will be understood. At the opposite or forward end of the main bar 1 there is provided another wire-clamp 16, which is best illustrated in Fig. 3 of the drawings. This clamp is of substantially L shape, having the right-angled arms 17 and 18, respectively. Provided at the outer end of the arm 17 and projecting laterally from the upper edge thereof is a shoulder 19, which is adapted to engage over the upper edge of the main bar, as shown in Fig. 1, so as to locate the arm 18 in a vertical po-

sition and pendent from the main bar. The lower or outer extremity of the arm 18 is provided with a foot 20, which extends in a direction opposite to that of the shoulder 19, and pivoted to the foot side of the arm 18 is an eccentric clamp 21, which is provided with a guard-flange 22, overlapping the outer end of the foot 20, and an oppositely-extending operating-handle 23. It will be noted that the arms 17 and 18 form a bracket supporting the clamp 21 and is pivoted at the vertex of the angle to the outer side of the main bar at a point outward from the guide-loop 3. Furthermore, the bracket is disposed so that the shoulder 19 may engage over the upper edge of the main bar from the outside thereof, and the clamp 21 is thereby located upon one side of the stretcher opposite the other clamp 12.

In the operation of the device as a mid-wire take-up the wire 24 is received between the eccentric clamps 12 and 21 and the respective feet 11 and 20 and the handles operated to clamp the wire between the eccentrics and the respective feet. It will now be understood that the guard-flanges 13 and 22 prevent lateral displacement of the wire after being engaged with the clamps. The lever 5 is then operated upon its pivot as a center, so as to engage the dogs 7 and 8 with the different teeth of the ratchet-bar, and thereby move the two bars longitudinally in opposite directions, which draws the opposite clamps toward each other and stretches the wire. After the wire has been sufficiently stretched it is cut off at a point adjacent to the lower end of the lever, which is provided with a vise 25, the jaws of which are parallel with each other and spaced far enough apart to admit of the wires being inserted between them separately, but will prevent them from passing over each other while within the jaws. This will permit of the free end of each wire being twisted around the other wire upon each side of the vise with the ordinary twisting-tool. I prefer to pivotally secure the vise to the end of the lever 5 just below the pawl 8, with the jaws parallel with the length of the wires to be spliced, so that the wires can be inserted without having to bend them out of their course. The jaws may be formed by cutting a narrow kerf in the free end of the block forming the vise.

To stretch the free end of a wire, the clamp 12 is not used, and a suitable chain 26 is provided at the rear end of the ratchet-bar, and this chain is fastened to a suitable post to fix the stretcher in position. Then the angle-bracket 16 is turned upon its pivot to adjust it vertically until it assumes the position shown in dotted lines in Fig. 1 of the drawings, whereby the arm 18, carrying the clamp, is disposed longitudinally of the main bar, with the clamp in advance thereof. The wire 27 is then engaged with the clamp and the handle operated, as hereinbefore described,

to feed the main bar longitudinally of the ratchet-bar, and thereby stretch the wire.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a wire-stretcher, the combination with a main bar, of a wire-clamp carried by and normally located at one side of the bar, and adjustable transversely thereof, a ratchet-bar slidable longitudinally of the main bar, a fixed wire-clamp carried by the ratchet-bar and in longitudinal coöperation with the normal position of the adjustable clamp, and both clamps for engagement with opposite portions of the same wire, the adjustable clamp being movable into longitudinal alinement with the main bar, the ratchet-bar having means for fixing the same for coöperation with the adjusted position of the latter clamp, and means for operating the bars.

2. In a wire-stretcher, the combination with a main bar, of a substantially L-shaped bracket pivoted at its angle and to one end of the main bar, and having a shoulder projecting laterally from one end of one arm of the bracket and adapted to engage the upper edge of the main bar, a wire-clamp located at the opposite end of the other arm, a ratchet-bar slidable longitudinally upon the main bar, and a means for operating the bars to slide the latter longitudinally in opposite directions, substantially in the manner shown and described.

3. In a wire-stretcher, the combination with a main bar, of a bracket pivoted intermediate of its ends to the main bar, provided at one end with a shoulder for engagement with the main bar, and at its opposite end with a wire-clamp, the shoulder normally engaging the bar and holding the bracket transversely of the latter, and said bracket being adjustable into a position longitudinally of the main bar, a ratchet-bar, a fixed wire-clamp carried by the ratchet-bar and in longitudinal coöperation with the normal position of the adjustable clamp, and both clamps for engagement with opposite portions of the same wire, means for fixing the ratchet-bar for coöperation with the adjusted position of the adjustable clamp, and means for operating the bars.

4. In a wire-stretcher, the combination with a main bar, of a substantially L-shaped bracket pivoted at the vertex of its angle to one end of the main bar, a lateral shoulder provided at one free end of the bracket and adapted to engage over the upper edge of the main bar, a lateral foot provided at the opposite end of the bracket, an eccentric wire-clamp mounted adjacent to the foot, and having a guard-flange overlapping the end of said foot, a ratchet-bar slidable longitudinally upon the main bar, and provided at one end, opposite the bracket, with a pendent arm, having a lateral foot, and an eccentric wire-clamp, provided with a guard-flange overlapping the outer end of the foot, and means for

sliding the two bars longitudinally in opposite directions, substantially as and for the purpose set forth.

5 In a wire-stretcher, the combination with
a main bar, having a wire-clamp, of a ratchet-
bar slidable longitudinally upon the main bar,
and provided with a wire-clamp, and an op-
erating-lever for sliding the two bars longi-
tudinally in opposite directions, and having
10 one end provided with means for holding op-
posite ends of the wire, while being spliced or
connected, substantially in the manner shown
and described.

6 In a wire-stretcher, the combination with
15 a main bar, having a wire-clamp, of a ratchet-
bar slidable longitudinally upon the main bar,
and provided with a wire-clamp, and an op-
erating-lever for sliding the two bars longi-
tudinally in opposite directions, and having
20 its lower end provided with a pivoted vise for
holding opposite ends of a wire, while the lat-
ter is being spliced or connected, substan-
tially in the manner shown and described.

7 In a wire-stretcher, the combination with
25 a main bar having opposite, longitudinally-

aligned, and laterally-offset guide-loops, of a
substantially L-shaped bracket pivoted at the
vertex of its angle to one end of the main
bar, and provided with a lateral shoulder at
one end of the bracket and a wire-clamp at 30
the opposite end thereof, a double ratchet-
bar slidable longitudinally through the guide-
loops, and having a pendent arm at one end
opposite the bracket, and a wire-clamp mount-
ed at the lower end of the arm, and an oper- 35
ating-lever located between the two bars, piv-
oted to the main bar, provided with upper
and lower dogs engaging the respective sides
of the ratchet-bar, and having its lower end
provided with a longitudinal bifurcation form- 40
ing prongs, substantially as and for the pur-
pose set forth.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

JOHN LAURIS OLSON.

Witnesses:

J. W. SAUNDERS,
G. O. BROUSTAD.