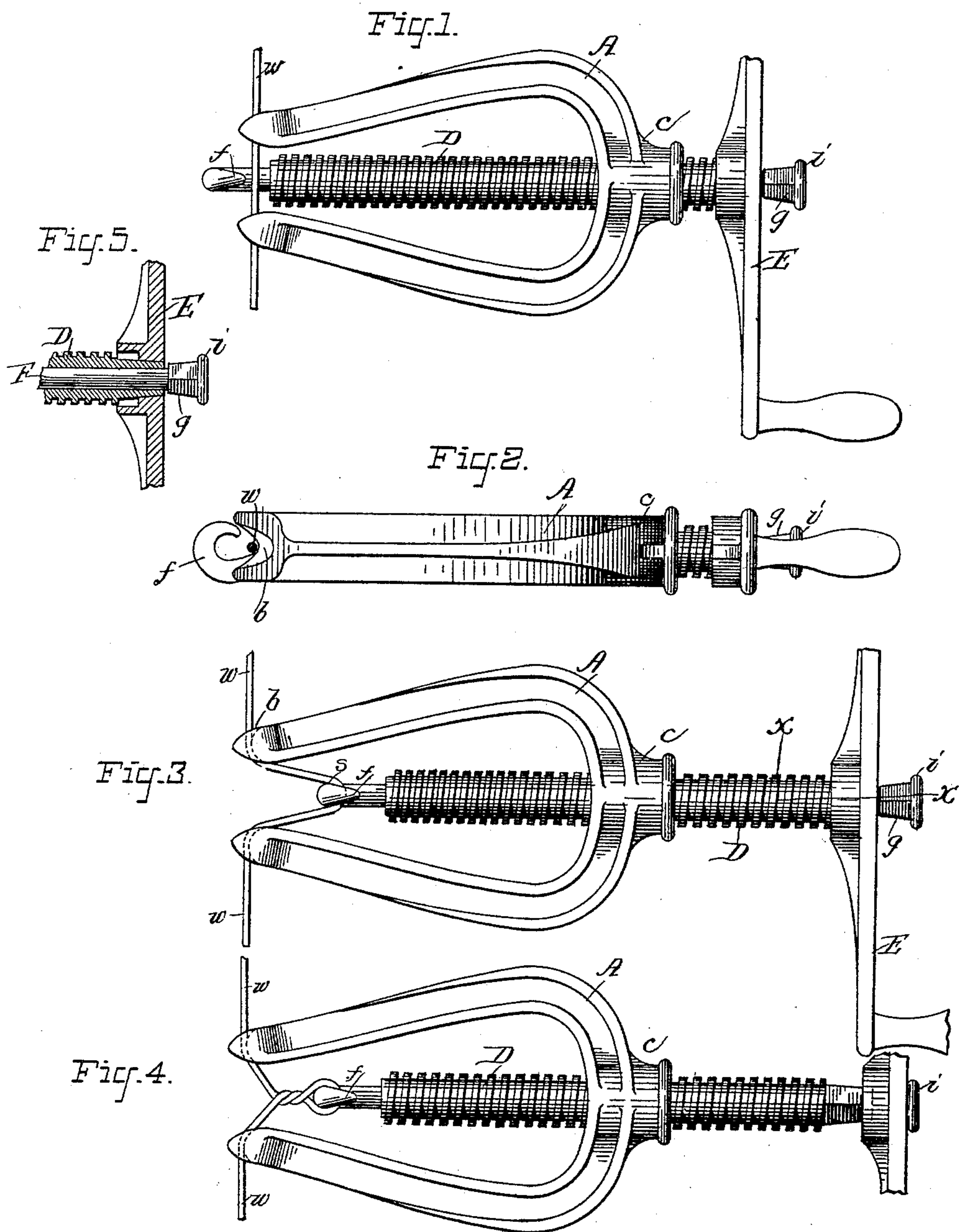


(No Model.)

L. S. FLATAU.  
WIRE LOOPING TOOL.

No. 460,916.

Patented Oct. 6, 1891.



ATTEST:  
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# UNITED STATES PATENT OFFICE.

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## WIRE-LOOPING TOOL.

SPECIFICATION forming part of Letters Patent No. 460,916, dated October 6, 1891.

Application filed June 11, 1891. Serial No. 395,875. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS S. FLATAU, of Fort Worth, in the county of Tarrant and State of Texas, have invented a new and useful Tool for Tightening Wires under Tension; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improved device for tightening up or taking the slack out of a strained-up wire by forming a loop in the wire and then twisting the loop on itself, after the method or fashion set forth in Letters Patent granted to me on the 12th day of February, 1889, No. 397,635. The tool made the subject of this application is designed to act upon or manipulate a wire under tension or draft strain in substantially the same manner as in the case of my said patented tightener, but by mechanical means simpler than and somewhat different from those employed in the said implement.

The novel structural features in which my present invention consists will be found fully described hereinafter, and will be particularly pointed out in the claims of this specification; and to enable those skilled in the art to make and use a machine containing my invention I will now proceed to more fully explain the latter, referring by letters to the accompanying drawings, which form part of this specification.

In the said drawings, Figure 1 is a top view of my improved instrument, showing the same in a position and with its parts adjusted ready to operate upon a wire such as also shown in said view. Fig. 2 is a side or edge view of what is shown in top view at Fig. 1. Fig. 3 is a view similar to Fig. 1, but showing the parts of the tool differently adjusted and the wire drawn up into a loop. Fig. 4 is a similar view, but showing the loop twisted and the shifting handle-bar adjusted differently; and Fig. 5 is a detail sectional view at the line *xx* of Fig. 3.

In the several figures the same part will be found always indicated by the same reference-letter.

A is a metallic frame, which, by preference, is made, as shown, somewhat in the shape of

a lyre, with its ends slightly bifurcated or notched, as at *b*, to form guides and bearing-recesses for the wire to be operated upon. The root or base portion of this frame A is sufficiently enlarged and is of the proper shape, as seen at *c*, to afford the stock and strength necessary at this locality for a threaded bearing for the screw-shaft D, which, as shown, is a tubular shaft having cut on its exterior a large screw-thread (preferably a left-handed square thread) that works in a similar female thread cut in the hole or perforation in the portion *c* of the said frame. The hollow screw-shaft D has its rear or outer end made square (or of other polygonal form) to fit the central perforation or eye of a handle or hand-lever E, the function of which will be presently explained.

F is a twister bar or rod, which is arranged and is adapted to turn within the bore of the tubular shaft D, and which has one of its protruding ends formed or provided with a hook *f* and the other with a square head *g*, adapted to fit easily within the polygonally-shaped eye or central aperture of the hand-lever E, all as clearly shown and for a purpose to be presently explained. The central rod or twister-bar F, while free to turn axially or to rotate within the bore of the hollow shaft D, (which bore it loosely fits,) is preferably made of such length as to have little or no play or motion endwise within said shaft, any material movement endwise being prevented in one direction by the hook *f* and at the other by the head *g*, which head is formed, as shown, with a slight enlargement or flange *i*, which prevents the perforated handle or lever E from slipping over and off the said head.

In assembling the parts of the implement or contrivance the twister-rod F, with its integrally-formed hook *f*, but without its head *g*, may be inserted within the bore of the screw-shaft D after the latter shall have been screwed into the nut formed in the portion *c* of the frame A. The hand-lever E may then be placed on the outer squared end of the shaft D and the head *g* then secured in place, (by a screw-thread or otherwise,) all as fully shown in the drawings.

In the use of the tool to perform the operations of taking the slack out of a wire (held



under tension) and then securing the taken-up portion of the wire against being drawn out by the draft of the taut wire the operation of the device is about as follows: The parts having been set or adjusted to about the condition illustrated at Figs. 1 and 2, the instrument is placed relatively to the wire *w* (to be acted upon) about as shown at said figures and so that the wire will become seated in the crotches of the two bifurcated or slightly-forked ends *b* of the frame and will lie within the grip of the hook *f*. The hand-lever *E* having been adjusted so as to have its central perforation embrace the squared end of the hollow shaft, as seen at Figs. 1 and 2, the operator then turns the said handle in the proper direction (while at the same time he holds the frame *A* in place relatively to the wire) to rotate the screw-shaft and cause it to travel within its nut in the base of frame *A* until a loop *s* shall have been pulled up, as shown at Fig. 3, of sufficient length to take the slack out of the wire or to pull it sufficiently taut, the wire meanwhile being supported laterally against the pull of the tightening-hook *f* by the recessed or bifurcated end of the frame *A*, all as clearly shown. Having thus taken up the slack in the formation of loop *s*, the operator then shifts the hand-lever *E* to the head *g* of the rod *F*, as shown at Fig. 4, and then, turning the same, rotates the rod *F* within the hollow shaft, thus causing the hook *f* to twist the loop of wire into about the condition shown in said figure. If in performing the twisting up of the loop (to secure it against being pulled out by the draft-strain of the wire *w*) it be found necessary or expedient the handle *E* may be shifted back and forth from the head *g* to the end of the shaft *D*, and vice versa, so as to let up slightly on the pull of the hook *f* and not ex-

ert too great strain on the wire, though usually the shortening of the take-up loop by twisting it may be compensated for on the line of wire held against the roots of and slightly pulled through the forks at the ends of the frame *A*.

Of course various changes in the mere details of the device may be made without changing its principle of construction or mode of operation, and all such modifications would come within the scope of my invention.

Having now so fully explained the construction and operation of my improved implement that those skilled in the art can understand and practice my invention by making and using a tool precisely the same as that I have shown and described or one substantially like it, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the frame *A*, adapted to support the wire to be acted upon in line and a hollow screw-shaft mounted, as specified, in said frame, a take-up hook the rod or shank of which is arranged within the hollow shaft, as specified, and means for separately rotating said hollow shaft and said take-up hook, substantially as and for the purpose set forth.

2. In combination with the frame *A*, the hollow screw-shaft mounted therein, and the twister-rod arranged within said shaft and having a hook at one end and a polygonal head at the other, the shifting hand-lever adapted to operate said shaft and said rod alternately, all substantially as set forth.

In witness whereof I have hereunto set my hand this 11th day of April, 1891.

LOUIS S. FLATAU.

In presence of—

CHAS. A. COOK,  
E. J. RUSSELL.