(No Model.) 2 Sheets—Sheet 1.

G. ELSEY.

WIRE STRETCHER.

No. 260,551. Patented July 4, 1882.

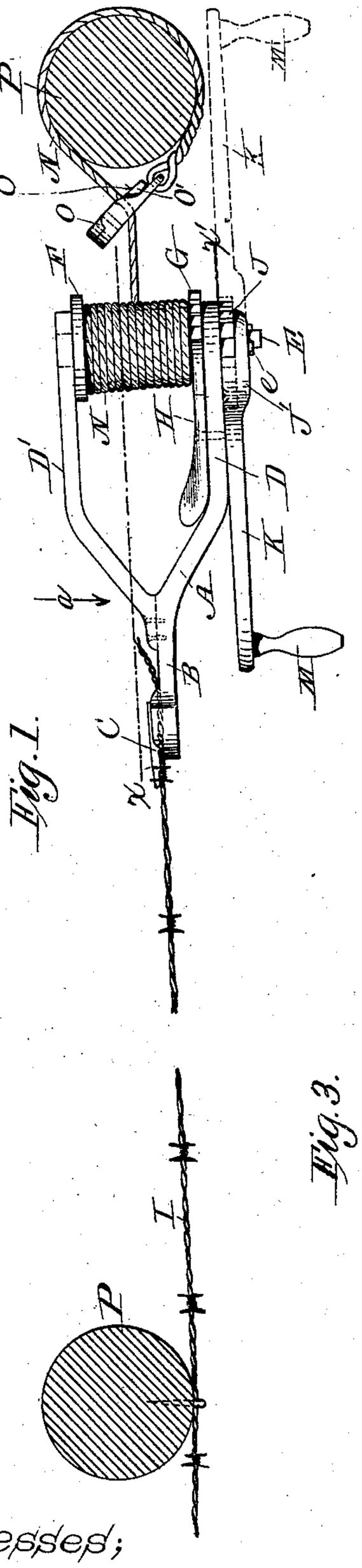

Fig. 1.

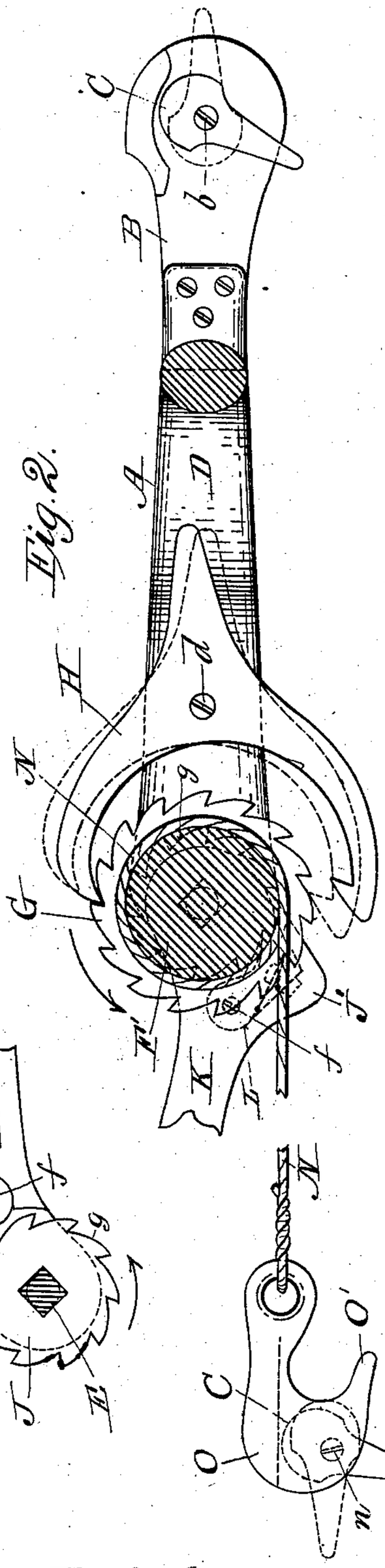

Fig. 2.

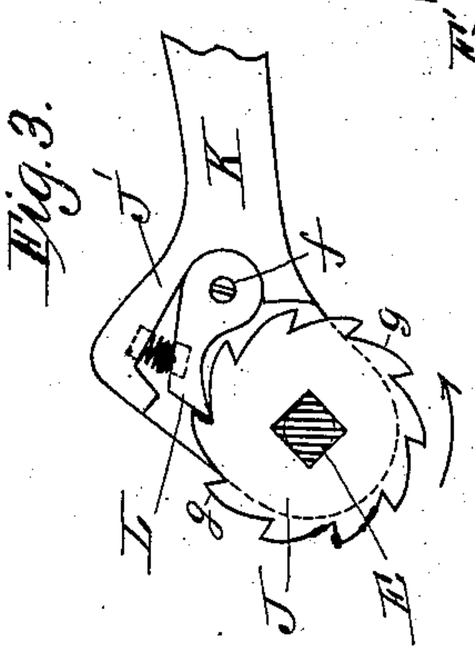

Fig. 3.

Witnesses;

Herbert M. Cooney

Frank T. Wood

Inventor;

George Elsey

(No Model.) 2 Sheets—Sheet 2.

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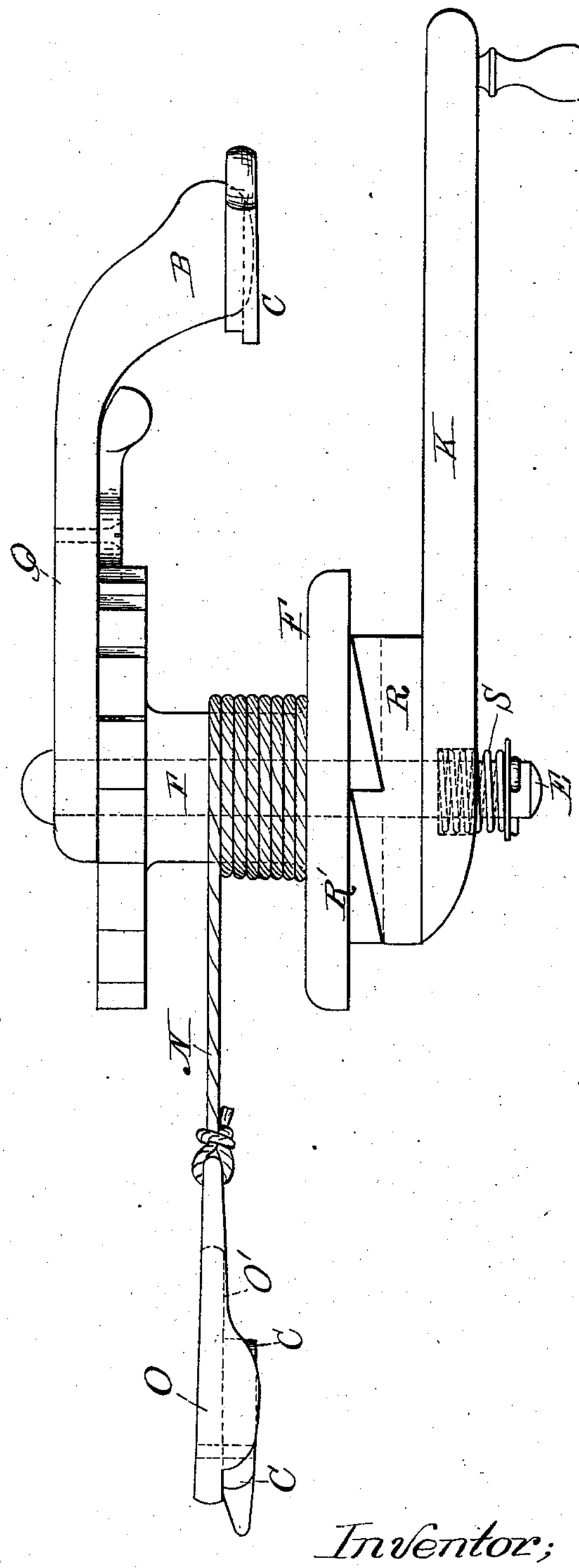

Fig. 4.

Witnesses;
Herbert M. Cooney
Frank T. Wood

Inventor;
George Elsey

UNITED STATES PATENT OFFICE.

GEORGE ELSEY, OF SPRINGFIELD, ASSIGNOR TO THE WORCESTER BARB FENCE COMPANY, OF WORCESTER, MASSACHUSETTS.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 260,551, dated July 4, 1882.

Application filed May 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ELSEY, of the city of Springfield, county of Hampden, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Wire-Stretchers; 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 a part of this specification, and in which—

Figure 1 represents a top or plan view of the stretcher as it appears when in use, two of the fence-posts being shown in section. Fig. 2 represents a section on line *x*, Fig. 1, looking in the direction of arrow *a*, same figure, some of the parts shown in Fig. 1 being represented broken away in Fig. 2. Fig. 3 represents a section on line *x'*, Fig. 1, looking in the direction of arrow *a*, Fig. 1, the operating-handle being shown broken off; and Fig. 4, Sheet II, represents a plan view of a modification of the construction shown in Figs. 1, 2, and 3, Sheet I.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, the part marked A is the frame of the stretcher, which in this instance is made with an arm, B, to one side of which is attached or secured a wire clamp, C, by a pivot, *b*, and two arms or forks, D D', in the ends of which the journal E of the stretching-wheel F is fitted to turn, one end of the wheel F being provided with a ratchet-wheel, G, into which a double forked pawl, H, pivoted at *d* to the inside of arm D, is fitted to work, so as to hold and retain wheel F from being drawn back by the pull or strain of the wire I during the operation of stretching the wire. A second ratchet-wheel, J, is fastened to the journal of wheel F. In this instance it is arranged upon the outside of the arm D, through which one end of the journal E of wheel F projects. Outside of ratchet-wheel J is arranged an operating-arm, K, which is fitted to turn loosely on the end of journal E, being held from slipping off by pin *e*. The inside of the thick part J' of arm K is cut out to receive and hold a pawl, L, pivoted to it at *f*, said pawl being forced down into teeth *g* of ratchet-wheel J, as fully indicated in full and dotted lines, Figs. 2 and 3.

Operating-arm K is provided with a handle, M. One end of a rope, N, is secured to the drum F' of wheel F, while to the other end is fastened a combined wire-clamp, O, and hook O'.

Arm D' may be cast separate from arm D and fastened thereto, as indicated in the drawings, or both arms may be cast together, in which latter case journal E would be so made that it could be properly inserted into the ends D D' and there retained in position for operation. Pipe-bearings could be used in this construction, the journal being made to run into position.

The operation is as follows: Rope N being secured to a post, P, as indicated in Fig. 1, hook O' being hooked over the rope, and the fence-wire being clamped to the end or arm B of the stretcher, as shown in Fig. 1, the operator, by means of arm K and its pawl L, turns ratchet-wheel J, and thereby winds up rope N, as shown in Fig. 1, the pawl L taking into ratchet-wheel J and holding or preventing said wheel from being turned back. A wire-clamp, C, pivoted at *n*, is used in connection with combined clamp-piece O and hook O', attached to rope N, all as fully indicated in Fig. 2. In Figs. 1 and 2 the fence-wire is shown broken, in order to show two posts. When the wire I has been properly stretched it is fastened to post P, and then the operator moves on to the proper distance to stretch and fasten another section.

If it is desired to splice or unite a broken strand, one end of the broken strand is clamped to the rear end or arm, B, as shown in Fig. 1, while the other end is clamped to the clamp O, attached to the end of the rope N, after which the operator, by means of the crank-arm K and the ratchet devices combined therewith, winds up the rope upon the drum of wheel F, thereby drawing the ends of the fence-wire past each other a sufficient distance to enable them to be twisted or spliced together.

One great, important, and practical advantage of my present invention is that the device can be worked close down to the ground to strain and tighten the bottom strand, even though close to the ground, since the arm K

can be operated to move the ratchet-wheel J a single tooth at a time, and that, too, by a simple back-and-forth motion. Again, the device can be used equally well upon either side of the posts, and either side up or down, the double pawl H working automatically to hold ratchet G from turning back in either case.

In Fig. 4 the operating-arm K is combined with the other parts in a somewhat different manner, although the same can be worked close down to the ground and by a short back-and-forth motion. Again, the frame-work A in Fig. 4 is not so extended, there being only one piece, Q, to which the journal of the winding-wheel F is secured. In this modification, too, the operating arm or lever K is made to serve the purpose of a pawl, it being provided with a ratchet-hub, R, which works in connection with the ratchet-head R′ of wheel F. Spiral spring S upon the end of journal E keeps ratchet-hub R in mesh with ratchet-head R′.

Having described my improvements in wire-stretchers, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with frame A, provided with an arm, B, supporting a wire-clamp, as described, and journal E, of the winding-wheel F, rope N, combined clamp and hook O O′, pawl H, ratchet-wheels G and J, and operating arm or lever K, provided with pawl L, substantially as and for the purposes set forth.

2. In a wire-stretching machine, the combination, with the frame of the machine, of a ratchet-wheel and a double holding-pawl working in connection therewith, and an operating lever or arm provided with a ratchet device, for operation substantially as described, whereby the machine can be worked close down to the ground, and either side up, substantially as and for the purposes set forth.

GEORGE ELSEY.

Witnesses:
HUBERT M. CONEY,
FRANK S. WOOD.