(No Model.)

M. BERDAN.

WIRE TIGHTENER.

No. 473,899. Patented May 3, 1892.

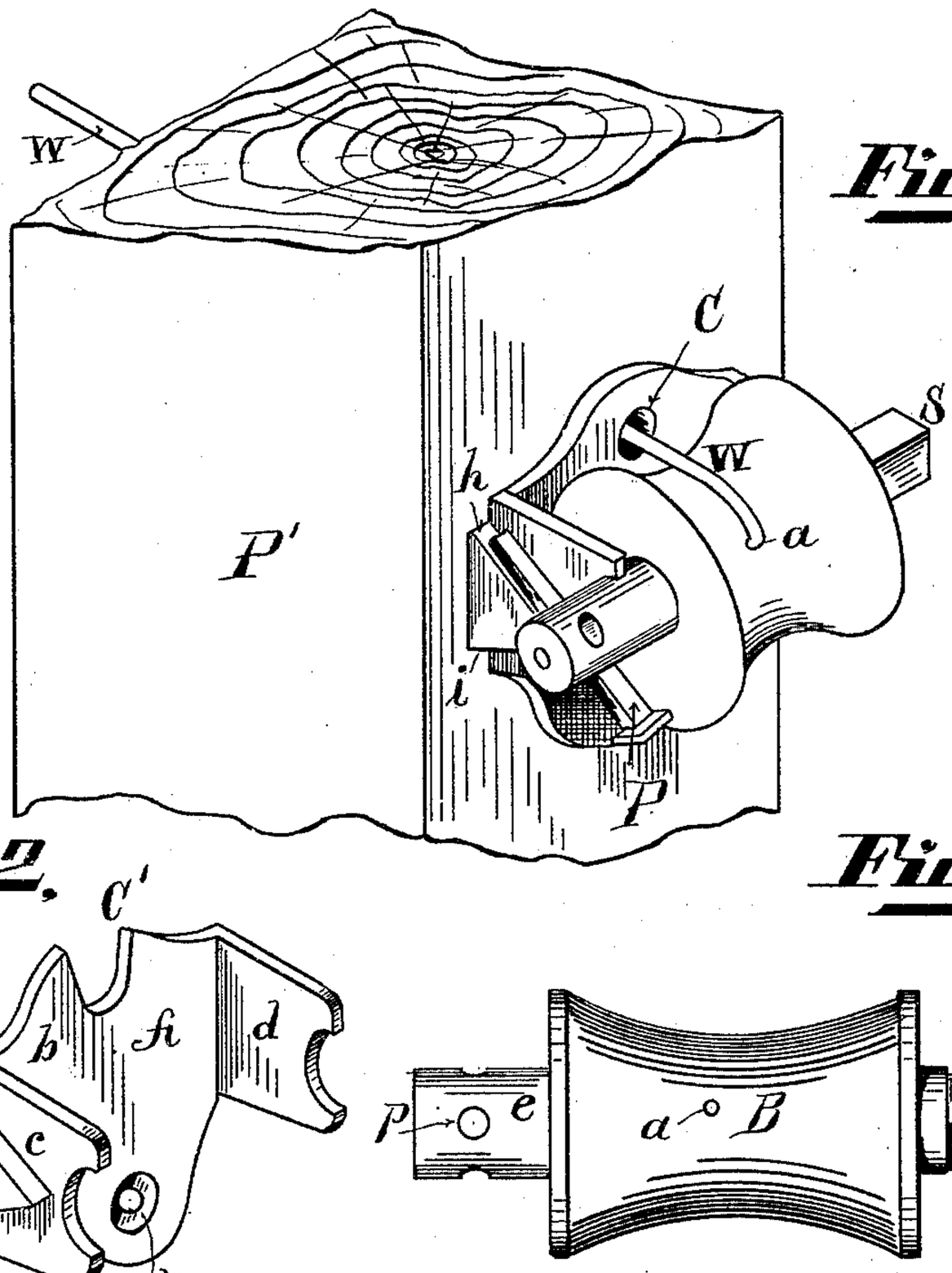
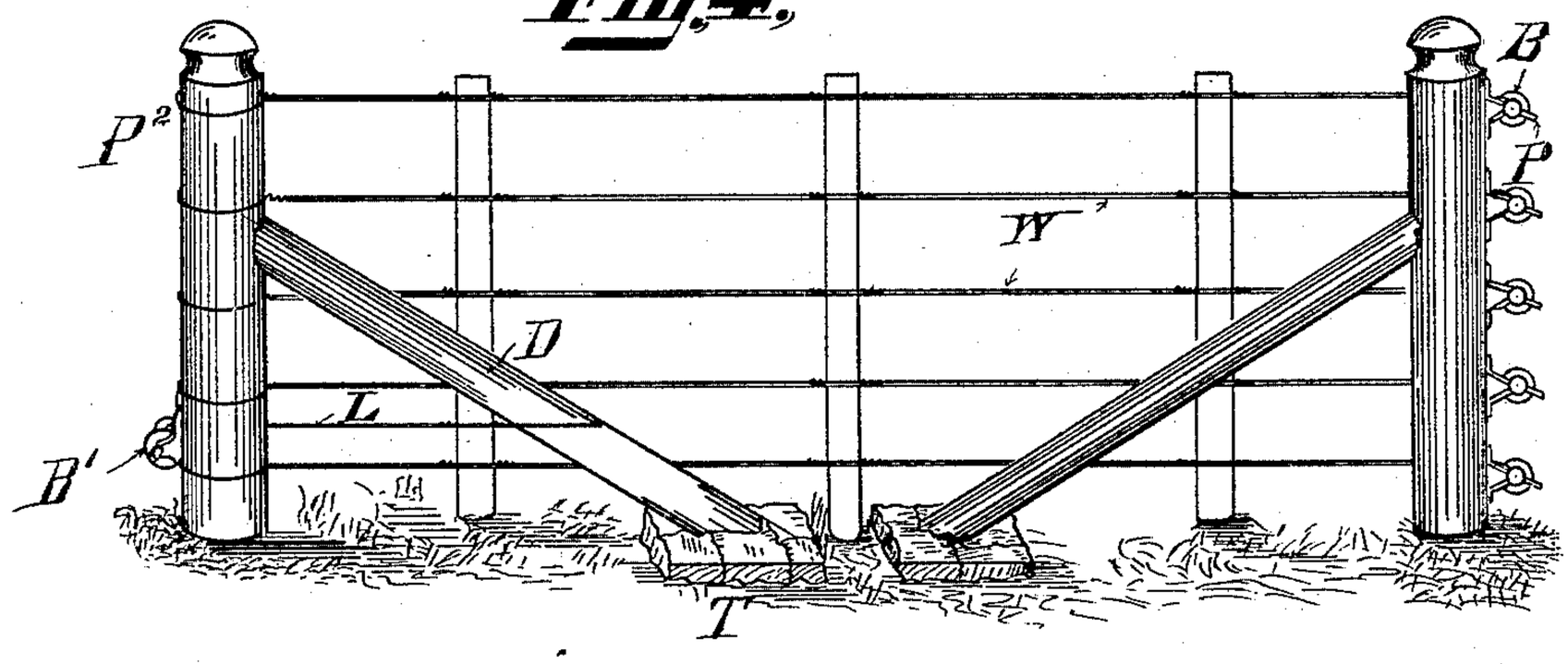


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.



WITNESSES
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MARVIN BERDAN, OF PLYMOUTH, MICHIGAN.

WIRE-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 473,899, dated May 3, 1892.

Application filed December 16, 1891. Serial No. 415,210. (No model.)

To all whom it may concern:

Be it known that I, MARVIN BERDAN, a citizen of the United States, residing at Plymouth, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Wire-Tighteners; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to wire-tighteners, and has for its special object a device to be used with the individual wires of a fence or other similar structure where it is desired to tighten and keep tight the separate wires, but where at times it may be necessary to slacken the wires on account of changes of temperature or for other reasons.

My device is simple, effective, cheap, and readily applied. A feature of especial utility is found in the readiness with which it may be applied and used in combination with a short piece of wire and a brace-bar for forming a brace to support the end post or gate-post in a line of fence, and by its use such brace can be readjusted whenever it may be necessary.

In the drawings, Figure 1 shows the parts of the stretcher assembled and mounted on a post. Figs. 2 and 3 show the parts of the stretcher. Fig. 4 shows it in combination with a post and brace-bar, forming with them an adjustable end post and brace that may be readjusted whenever necessary.

A is a hanger having a seat part *b* and two shaft-supports or Y's *c d*. Each of the shaft-supports *c d* is provided at its extremity with an indentation or hollow, semicircular or arched in outline, to receive the round journal E of the spool B. One or both of the shaft-supports *c d* is furnished with an extending lug *g*. This lug may be of any size; but I prefer to make it with two flat faces *h i*, each of which is parallel to a diameter of the shaft *e* when the shaft is in its bearings. The shaft *e* is perforated diametrically at a point such that a pin put through the perforation when the shaft is in its bearings will strike against the face *h* or *i* of the lug *g*. The faces *h i* of the lug *g* meet at an angle acute toward the bearing part of the support *c*, and each face *h i*, if extended beyond the bearing through the shaft *e*, would lie parallel with the diameter but removed from it one-half the diameter of the perforation *p*. This form of structure permits a long bearing without twisting strain or with a minimum of twisting strain between the pin P and the face *h* of the lug *g*. One end S of the shaft *e* is squared to receive a wrench. On the middle portion of the shaft, made integral with it or fast to it, is a spool B, perforated at *a* to receive the end of the wire to be strained. The seat *b* is also perforated at C or dented, as shown at C′ of Fig. 2, to permit the passage of the wire. The seat *b* extends beyond the perforation C or the dent C′, so as to furnish a bearing part against the post P′ at at least three points around the wire W and prevent any tendency of the seat-iron to turn and twist out of place. The hanger is attached to the post by the screw or nail driven into the post through the hole X, or a pointed lug may be cast on the back of the hanger at this point.

In use the wire to be strained is passed through a hole in the post B, through the hole C in the hanger, into the hole *a* in the spool. The shaft of the spool is placed in its bearings and the shaft turned by means of a wrench until the wire is sufficiently strained. The pin P is then pushed through the hole *p* until its end comes against the face *h*, when the wrench may be taken off and all the parts will be held securely in position.

In using this stretcher and a wire in forming a brace for the end post I secure the upper end of a brace D to the post P^2 at some distance above the ground. The lower end of the brace rests against the ground or stone T or any other firm substance. Around the brace D, near its lower end, I pass a loop of wire L. I secure the same from slipping upward along the brace by notching the brace or by driving a nail into it above the wire and pass the end of the wire through the post, secure it to the straining-spool B′, and strain it, as hereinbefore described. Should the post lean at any time, it can be immediately returned to its proper place by straining the wire L more tightly. The use of the wire L and the straining-spool for this purpose is much more economical and efficient than a straight rod either with a loop

end and a nut and thread on the other end or a straight rod with threads cut on both ends, as this form of tie can be applied at any time while the fence is building or after the fence is built, using the materials which are at hand for the construction of the fence itself.

What I claim is—

1. In a wire-tightener, the combination of a hanger provided with journal-supports and a seat adapted to rest against the fence-post and holding-lugs on said journal-supports, a spool provided with a shaft squared at one end and perforated at the other, and a pin adapted to pass through said perforation and engage with one of said lugs, the said lugs being provided with a long bearing-face parallel to a diameter of said shaft and removed from said diameter one-half the diameter of the said perforation through the shaft, whereby a long bearing without twisting strain is secured, substantially as and for the purpose specified.

2. In a wire-tightener, the combination of a hanger provided with journal-supports and a seat adapted to rest against the fence-post and holding-lugs on said journal-supports, a spool provided with a shaft squared at one end and perforated at the other end, and a pin adapted to pass through said perforation and engage with one of said lugs, the said lugs being triangular in shape, with an acute angle toward the bearing part of the journal-support, and each lug being provided with two long bearing-faces parallel to the diameters of said shaft and each face being removed from the diameter to which it is parallel by a distance equal to one-half the diameter of the perforation through the shaft, whereby the said pin is provided with a long bearing and the said spool may be wound in either direction, substantially as and for the purpose specified.

In testimony whereof I sign this specification in the presence of two witnesses.

MARVIN BERDAN.

Witnesses:

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