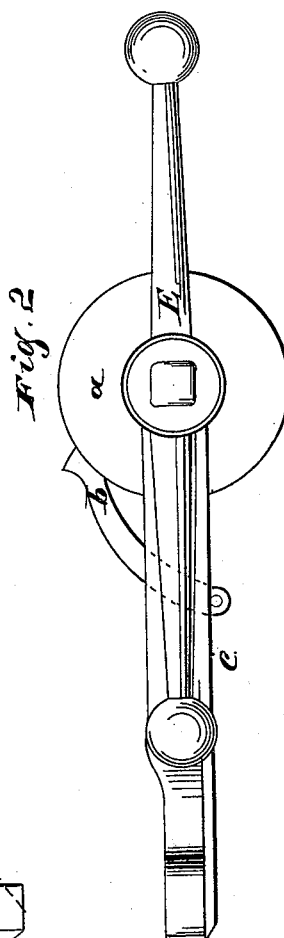
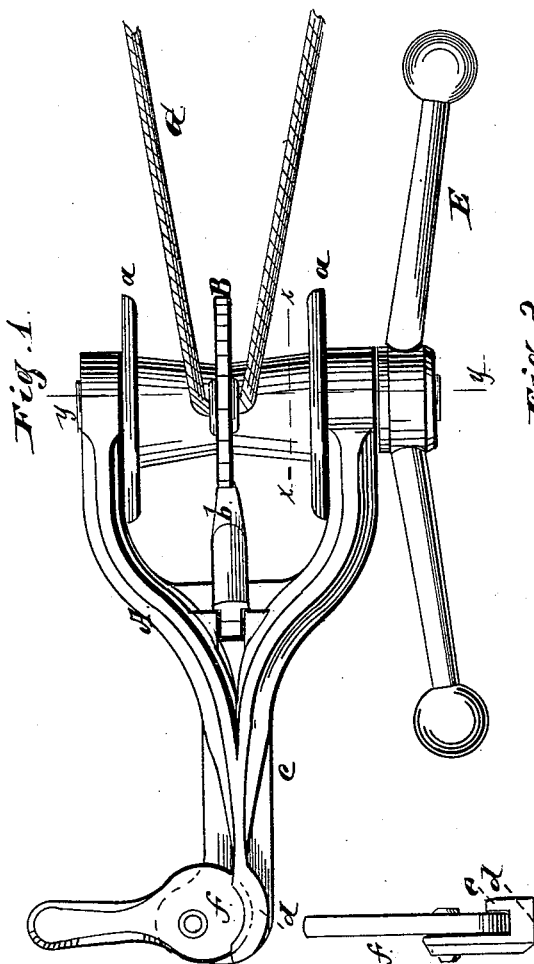
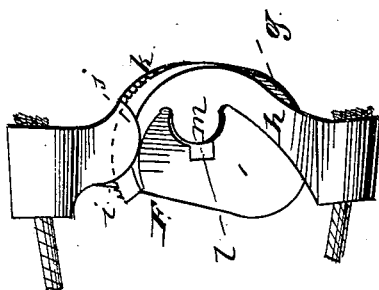


2 Sheets—Sheet 1.

No. 262,587.

Patented Aug. 15, 1882.



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Edgar<sup>r</sup> Bond

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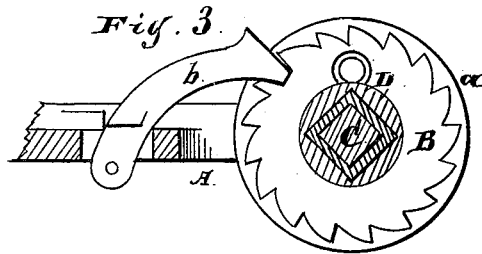
(No Model.)

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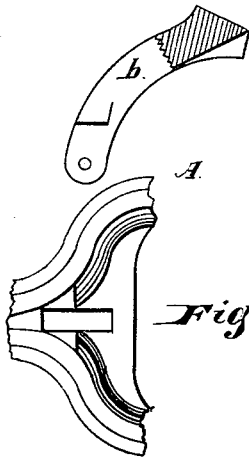
J. HAISH.  
WIRE STRETCHER.

No. 262,587.

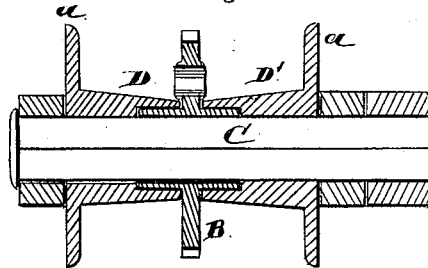
Patented Aug. 15, 1882.



*Fig. 5.*

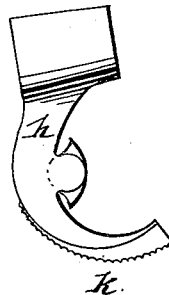


*Fig. 4.*

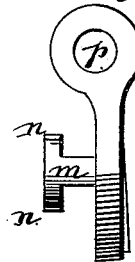


*Fig. 6.*

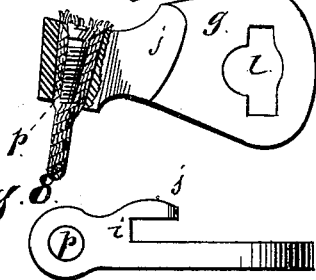
*Fig. 9.*



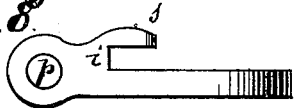
*Fig. 10.*



*Fig. 7.*



*Fig. 8.*



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# UNITED STATES PATENT OFFICE.

JACOB HAISH, OF DE KALB, ILLINOIS.

## WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 262,587, dated August 15, 1882.

Application filed March 18, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB HAISH, residing at De Kalb, in the county of De Kalb and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Wire-Stretchers, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan. Fig. 2 is a side view of the parts shown. Fig. 3 is a section at line *x* of Fig. 1. Fig. 4 is a section at line *y* of Fig. 1; Fig. 5, a side view of pawl; Fig. 6, a top view of that portion of the frame which receives the lower end of the pawl. Figs. 7, 8, 9, and 10 are enlarged details, Fig. 7 being a plan of the parts shown, a part being in section. Fig. 8 is a side view of the iron shown in Fig. 7. Figs. 9 and 10 are two views of one-half of the clamping-iron F.

As heretofore constructed, the strain upon a wire-stretcher comes largely upon one side, and therefore the device is liable to turn while being used.

One object of my invention is to obviate this difficulty; and it consists in a winding-drum supported in a frame, and provided with a central holding-ratchet, and carrying a wire-clamping device arranged in relation to each other for bringing the straining-points substantially in the same line, and thereby preventing side pressure and turning.

The invention also consists of certain other features, which will be fully hereinafter described, and pointed out in the claims.

In the drawings, A represents a frame having a fork at one end, between the two arms of which fork the winding-drum is placed.

B is a ratchet-wheel with a square hole in its center, through which a square bolt, C, passes. The winding-drum, as shown, is made in two parts, D D', each having a square hole through the same to receive the square bolt C, and each having a flange, *a*, upon one side. The bolt C forms the shaft of the winding-drum and ratchet, and upon its outer end is a handle, E, which, as shown, is made double. The bolt or shaft C is secured in place by riveting or otherwise, and rotates in bearings at the ends of the arms of the fork of the frame A.

*b* is a pawl pivoted at the center of the

frame, and arranged to engage with the ratchet-wheel B.

Upon the outer end of the arm or extension *c* is a flange, *d*, having a lip, *e*.

*f* is an eccentric pivoted to the extension *c* for the purpose of clamping a wire between the eccentric and the upward projection *d*. This eccentric *f* is arranged to pass beneath the lip *e*.

F is a clamping-iron, which is made in two parts, *g* and *h*. The part *g* is provided with an upward projection, *i*, and a lip, *j*, and the part *h* is provided with an eccentric, *k*, arranged to pass beneath the lip *j*. The part *h* is pivoted to the part *g*, so that it can be easily removed therefrom, and yet be held in place when connected therewith and in use; and this I accomplish by providing the part *g* with an opening, *l*, of the form shown in Fig. 7, and by providing the part *h* with a stud, *m*, projecting downward, and provided at the lower end with projections *n*. The outer end of each part *g* and *h* is provided with a hole, *p*, which is preferably slightly tapering.

G is a cord or rope, which passes through a hole in the ratchet B, the two ends of such cord being respectively secured to the parts *g* and *h* of the clamping-iron F. This I accomplish by passing one end of the cord through the hole *p* in the part *g* and the other through the hole *p* in the part *h*, and I secure each end of the cord in place by means of a screw which passes down into the cord, the head of the screw nearly filling the end of the hole *p*, as shown in Fig. 7.

The operation is as follows: If a single wire is being stretched, the two parts of the clamping-iron F are separated from each other, and they are then passed behind a post, when the two parts are to be placed together, as shown in Fig. 1, thus connecting one end of a stretch-er with a post. The wire to be stretched is then to be clamped at the other end of the stretcher by the eccentric *f* in the usual manner. Then by rotating the drum the wire can be stretched, and as the strain on the drum is applied nearly at the center thereof, and the end of the wire and the ratchet and the post are all in line, the instrument will not be liable to turn while being used. If the ends of the two wires are to be brought together to be

spliced, one of the wires is to be held by the eccentric *f* and the other by the clamping-iron F, which then is to be disconnected from the post. Then by rotating the drum the two  
5 wires will be stretched, and the strain upon all points being nearly in a line with each other, the instrument will not be liable to tip over.

By making the clamping-irons F in two parts, and by providing for uniting and disconnecting them, as described, I can furnish a convenient and efficient means for securing the rope to a post, and at the same time, by means of the same irons, provide a clamping device to hold one wire when desired.

15 By providing the lips *e* and *j*, beneath which the eccentrics *f* and *k* pass, these eccentrics will be much more securely held than when the lip is placed upon the eccentric.

It is not necessary to make the shaft square, with square holes in the ratchet-wheel and two parts of the drum; but this is a convenient way of preventing the drum and ratchet from rotating upon the shaft.

I do not limit myself to the special form of drum described, as several modifications might be used without departing from the spirit of my invention. For example, flanges might be cast upon the bearings for the shaft at the ends of the fork of the frame, which flanges  
30 would perform the same functions as the flanges *a*, and in such case collars could be placed upon the shaft, one upon each side of the ratchet-wheel, upon which to wind the cord; or these collars might be omitted, and the cord might  
35 be wound directly upon the shaft, the ratchet-wheel being properly permanently secured thereto at or near the center in any now well-known manner. In this case it would be preferable to make the shaft round, or at least to  
40 round the corners to prevent injury to the cord.

When constructed as last indicated the shaft itself would become, in effect, the winding-drum.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. In a wire-stretching apparatus, a winding-drum supported in a frame provided with a central holding-ratchet, and carrying a wire-clamping device arranged in relation to each other to bring the straining-points practically  
50 in the same line, and thereby prevent side pressure and turning, substantially as described.

2. In a wire-stretcher, the combination of a frame carrying a winding-drum, a ratchet located at or near the center of the drum, and adapted to receive a rope, a pawl arranged on the frame for engaging the ratchet, and a wire-clamping device composed of a fixed flange and a pivoted eccentric arranged on one end  
60 of the frame, substantially as described.

3. The wire-clamping iron F, composed of the two parts *g* and *h*, one having an opening, *l*, and the other having an eccentric and a stud, *m*, provided with a projection adapted to the  
65 said opening for detachably connecting the two parts, substantially as described.

4. The wire-clamping iron F, composed of the two parts *g* and *h*, the former part having an opening, *l*, and an upward projection provided with a lip, *i*, and the latter part having an eccentric, *k*, to pass under the lip and stud  
70 *m*, provided with a projection adapted to the said opening for detachably connecting the parts, substantially as described.

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