(No Model.)

L. ROADHOUSE.

WIRE STRETCHER.

No. 524,352. Patented Aug. 14, 1894.

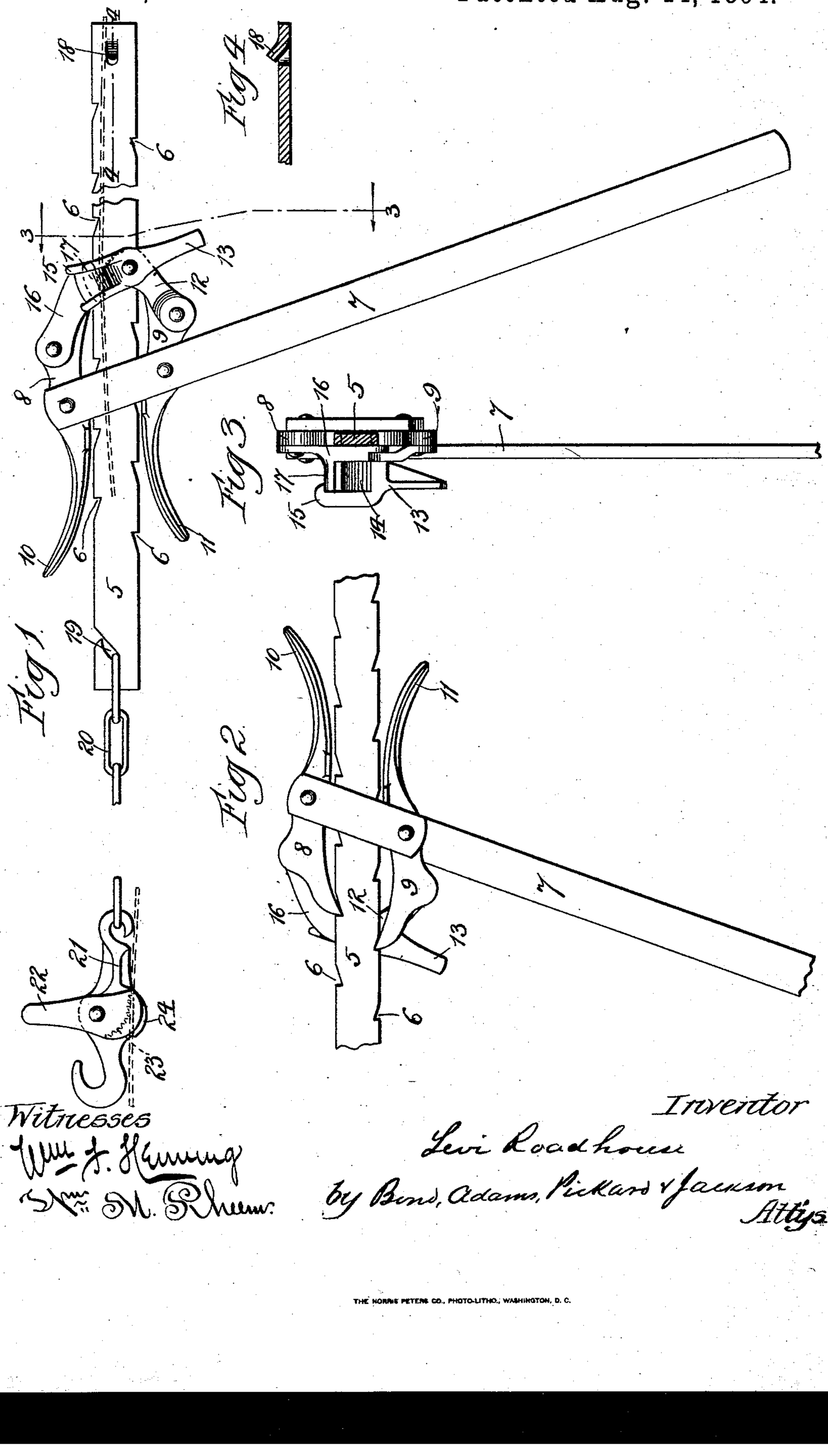

Fig 1.

Fig 4.

Fig 3.

Fig 2.

Witnesses
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UNITED STATES PATENT OFFICE.

LEVI ROADHOUSE, OF DE KALB, ILLINOIS, ASSIGNOR TO ABRAM ELLWOOD, OF SAME PLACE.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 524,352, dated August 14, 1894.

Application filed April 20, 1894. Serial No. 508,385. (No model.)

To all whom it may concern:

Be it known that I, LEVI ROADHOUSE, a citizen of the United States, residing at De Kalb, in the county of De Kalb and State of Illinois, have invented certain new and useful Improvements in Wire-Stretchers, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of a wire stretcher, showing the chain between the portions broken away. Fig. 2 is a side view of a portion of the stretcher seen from the opposite side from that shown in Fig. 1. Fig. 3 is an end view, partially in cross section, on line 3—3 of Fig. 1; and Fig. 4 is a detail, being a transverse longitudinal section of a portion of the notched bar, taken on line 4—4 of Fig. 1.

The object of my invention is to produce a new and improved wire stretcher, and in particular to improve the devices by which the end of the wire is held while it is being stretched.

A further object of my invention is to provide a new and improved way for mounting the chain upon the notched bar. I attain these objects as hereinafter specified and as illustrated in the drawings.

That which I regard as new will be set forth in the claims.

In the drawings,—5 indicates a notched bar, which is provided upon its edges with notches 6—6 so located that the notches upon one edge come between the notches upon the other. The notches are of the usual shape in instruments of this class, and are shown in Figs. 1 and 2.

7 indicates a lever, which is forked at its upper end, as is best shown in Figs. 2 and 3. I prefer to form this fork by means of a separate piece secured to the upper end of the lever, as is shown in Figs. 2 and 3, but it may be constructed in any appropriate manner. The forked end of the lever 7 is adapted to receive the notched bar 5 between the two arms of the fork so that the lever may slide longitudinally of said notched bar.

8—9 indicate pawls, which are pivotally mounted between the arms of the forked end of the lever 7, one above and one below the notched bar 5 when the notched bar is in position. The pawls 8—9 are provided with handles 10—11, by means of which the pawls may be freed from engagement with the notches when it is desired to slide the lever longitudinally of said notched bar 5. The ends of the pawls are adapted to engage with the notches 6 upon the notched bar 5.

12 indicates a link, one end of which is pivotally mounted upon the pawl 9 at a suitable point between the end of said pawl and the lever 7. 13 indicates a lever, which is pivotally mounted upon the other end of said link 12. The lever 13 is provided with a notched cam surface 14. The upper end of the lever 14 is provided with a shoulder 15 whose lower surface is concave, as is indicated by dotted lines in Fig. 1.

16 indicates a link, which is pivotally mounted upon the pawl 8 at a suitable point between the end of the pawl and the lever 7. The link 16 is provided with a shoulder 17 projecting outwardly from its outer surface, and adapted, with the notched cam surface 14 of the lever 13, to grip the wire between it and said cam surface. The outer end of the shoulder 17 rests below the concave surface of the shoulder 15 on the lever 13, and slides under said shoulder as the device is operated.

In order to prevent the lever with its pawls from passing off the end of the notched bar 5, a portion of the notched bar 5 at its free end is struck up, forming a shoulder 18, as is best shown in Fig. 4.

19 indicates a notch or slot which is formed in the end of the notched bar 5, extending diagonally downward and forward.

20 indicates a chain, one link of which is placed in the notch 19, the pointed portion of the notched bar 5 at the top of said notch 19 being then bent downward, as is shown in Fig. 1, to hold the chain in position in the notch.

21 indicates a clevis, which is hooked upon the other end of the chain 20. 22 indicates a lever, which is pivotally mounted upon said clevis 21, and is provided with a notched cam surface 23 in its lower portion. The clevis 21 is provided with a shoulder 24, which is

adapted to co-operate with the notched cam surface 23 of the lever 22 to grip and hold the wire between it and said notched surface.

The operation of my device is as follows: When it is desired to stretch a piece of wire so as to bring its end to a desired point the chain 20 is wound around a post or any suitable support, the end of the wire placed between the cam surface 14 of the lever 13 and the shoulder 17 of the link 16, and the lever moved so as to grip the wire between said cam and said lever. As the lower end of the lever 7 is moved toward the left, as shown in Fig. 1, the pawl 8 engages one of the notches 6, and by the motion of the lever the pawl 9 is carried forward until it engages with the next notch to the left, the wire being gripped between the cam surface 14 and the shoulder 17 is prevented from slipping backward, and is carried forward with the motion of the lever. The motion of the lever is then reversed, and as its lower end is carried toward the right in Fig. 1, the pawl 9 engages with one of the notches 6, and the pawl 8 is carried forward until it engages with the next notch to the left in Fig. 1, carrying with it the wire, as above described. The operation is repeated until the wire is stretched to the requisite point.

In case it is desired to bring together the ends of two pieces of wire, one wire is gripped between the cam 23 and the shoulder 24 on the clevis 21, the chain 20 serving to connect the clevis with the notched bar 5. The other wire is gripped between the cam surface 14 and the shoulder 17, as above described, the chain 20 being kept taut by the pull between the two portions of the wire. The lever 7 is then oscillated as above described, until the two ends of the wire are brought together.

One object of the links 12 and 16 is to cause the pawls 8 and 9 to bear upon the edges of the notched bar 5 so as to insure their engagement with the notches. This is caused by the fact that when the apparatus is in position the distance between the pivotal points of the links 12 and 16 is somewhat greater than the distance between the pivotal points of the two pawls 8 and 9 upon the lever. This, with the pull of the wire upon the cam surface of the lever 13, causes the pawls to bear constantly during the process of stretching upon the edges of the notched bar 5, insuring their engagement with the notches 6.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with a notched bar, a lever carried thereby and longitudinally movable thereon, and pawls pivotally mounted on said lever and adapted to engage with said notched bar, of links pivotally mounted on said pawls and provided with a cam adapted to grip a wire, substantially as described.

2. The combination with a notched bar, a lever carried thereby and longitudinally movable thereon, and pawls pivotally mounted on said lever and adapted to engage with said notched bar, of links pivotally mounted on said pawls, and a cam lever pivotally mounted on one of said links and adapted to co-operate with the other of said links to grip a wire, substantially as described.

3. The combination with a notched bar, a lever carried thereby and longitudinally movable thereon, and pawls pivotally mounted on said lever and adapted to engage with said notched bar, of links pivotally mounted on said pawls, one of said links being provided with a shoulder, and a cam lever pivotally mounted on the other of said links and adapted to co-operate with said shoulder to grip a wire, substantially as described.

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Witnesses:
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