

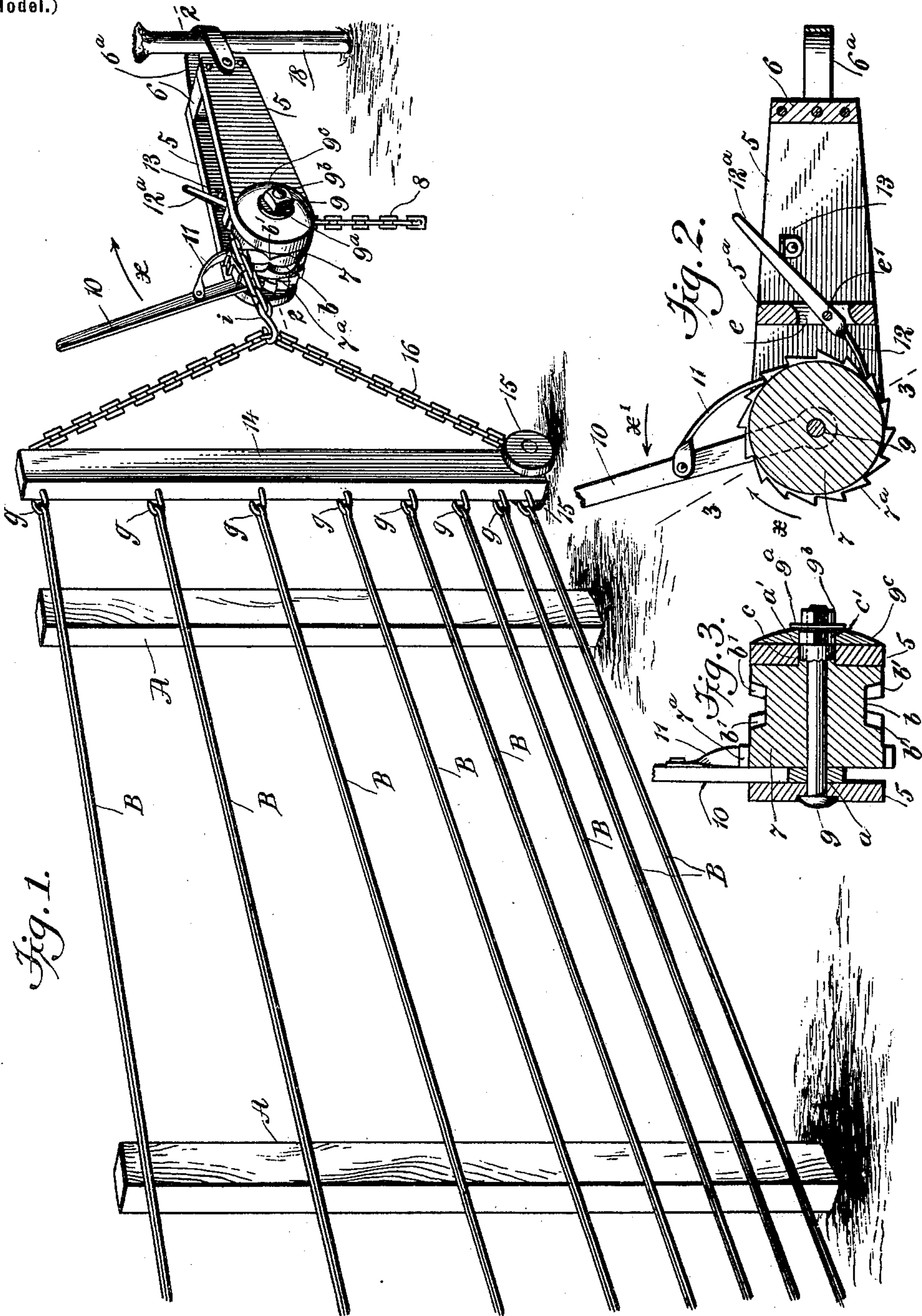
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Patented Mar. 18, 1902.

L. C. KELLY & C. E. AMSPACHER.  
FENCE JACK.

(Application filed Sept. 12, 1901.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## FENCE-JACK.

SPECIFICATION forming part of Letters Patent No. 695,734, dated March 18, 1902.

Application filed September 12, 1901. Serial No. 75,168. (No model.)

*To all whom it may concern:*

Be it known that we, LEWIS C. KELLY and CHARLES E. AMSPACHER, citizens of the United States, and residents of Charlotte, in the county of Eaton and State of Michigan, have invented a new and Improved Fence-Jack, of which the following is a full, clear, and exact description.

This invention relates to a class of implements employed to tighten longitudinal wires of fences, and has for its object to provide a wire-straining jack of novel construction well adapted for general use as a fence-wire tightener, but of special advantage for use in conjunction with mechanism employed to produce picketed wire fences wherein the plurality of horizontal wires are each formed of doubled strands and twisted as the pickets are placed in position, thus shortening the supporting-wires as the construction of the fence progresses; and a leading object of the invention is to provide improved details for a fence-jack which will keep the carrying-wires of the fence taut and compensate for the general shortening of said wires when twisted to retain upright pickets in spaced condition thereon.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improved jack as applied for holding doubled fence-wires taut, but permitted to shorten if twisted. Fig. 2 is an enlarged sectional view of details substantially on the line 2 2 in Fig. 1, and Fig. 3 is a transverse sectional view substantially on the line 3 3 in Fig. 2.

The fence-posts A and wires B are such as are usually provided for a woven-wire fence, wherein upright pickets (not shown) are secured upon the doubled-wire strands B by their consecutive insertion between the doubled portions of each fence-wire and then twisting these doubled-wire strands between the picket last inserted and the point where the next picket is to be located thereon.

It should be explained that the mechanism

for simultaneously twisting the horizontal spaced wire strands B to secure spaced pickets thereto may be of varied constructions, and as such mechanism does not embody features of the invention the twisting device has been omitted from the drawings.

The details of the improvement are essentially as follows: A substantially U-shaped metal frame is provided comprising two parallel sides 5 5, held suitably spaced apart by the end wall 6, the free ends of the side walls being rounded, as shown. Each side wall 5 of the jack-frame is transversely perforated in the same transverse plane, near the free ends of said walls, the perforation  $a'$  in one side wall being of greater diameter than the perforation  $a$  in the other side wall. A sprocket-pinion 7, having peripheral indentations  $b$ , adapted to receive consecutive links of a cable link chain 8, is loosely introduced between the side walls 5. On one side of the sprocket-pinion 7 a central projection is formed, consisting of a cylindric trunnion formation  $c$ , that is held to rotate in the perforation  $a'$  of one side wall 5 and also projects integrally exterior of the side wall mentioned, said projection  $c'$  having a polygonal form. An axial perforation is formed in the pinion 7 and receives the pivot-bolt 9, that first passes through the perforation  $a$  of one side wall 5, and has a head on one end, which head seats upon said side wall. The bolt 9 is threaded upon its opposite end, and has such a length as permits it to project beyond the angular formation  $c'$  for the reception of a washer 9<sup>a</sup> and a nut 9<sup>b</sup>. On the angular formation  $c'$ , which is an integral extension of the trunnion  $c$  of the sprocket-pinion 7, a friction-disk 9<sup>c</sup> is mounted, having a central angular aperture therein which permits its engagement therewith, and when in place the washer 9<sup>a</sup> and nut 9<sup>b</sup> afford means to clamp said disk with proper force against the outer side of the frame-arm 5, whereon it is seated. Upon the pivot-bolt 9, adjacent to the side wall 5 engaged by the head of said bolt, a lever 10 is loosely mounted. A ratchet-gear 7<sup>a</sup> is formed or secured upon the sprocket-gear 7 at the side thereof which is in contact with the hub of the lever 10, and upon said lever a spring-pressed pawl 11 is secured, the toe of which meshes with the teeth of the ratchet-gear, and for effective service the ratchet-



teeth on the gear 7<sup>a</sup> project away from the end wall 6 of the U-shaped frame, as clearly shown in Figs. 1 and 2. A detent-pawl 12, that extends from an arm 12<sup>a</sup>, pivoted at *e*' in a slot *e* formed in the cross-brace 5<sup>a</sup>, that extends between the side walls 5, has an engagement at its free end with the teeth of the ratchet-gear 7<sup>a</sup> below the toe of the pawl 11, and serves to prevent backlash of the sprocket-pinion 7 when turned in direction of the arrow *x* by the lever 10, as indicated in Fig. 2. The rocking movement of the detent-pawl 12 toward the teeth of the ratchet-gear 7<sup>a</sup> is effected by gravity of the arm 12<sup>a</sup> and is limited by the abutment-bracket 13, which extends from the inner side of the adjacent side wall 5, as shown in Fig. 2. A draft-bar 14, equal in height to that of the fence-posts A, is provided to support the looped ends of the fence-wires B, and to this end the bight of each doubled fence-wire is hooked upon an appropriate hook *g*, which series of hooks project from the side of the bar 14 opposite to the nearest post A. The draft-bar 14 is mounted upon a rotatable wheel or a pair of wheels 15, journaled at the foot of the bar, as indicated in Fig. 1, and is maintained upright by its engagement with the looped ends of the wires B and by coacting means that will now be described. A yoke-chain 16 or an equivalent flexible connection is secured by its ends upon the upper and lower ends of the draft-bar 14, and from the center of the yoke-chain the draft-chain 8 extends to pass over the sprocket-pinion 7 and have interlocking engagement with the indentations *b*, that form a series of sprocket-teeth *b*' on the periphery of the pinion-body. Preferably one end of the chain is provided with a hook *i*, which is engaged with the yoke-chain 16 and the remaining portion of the chain 8, that projects over and in engagement with the teeth *b*', hangs pendent at the inner edge portion of the sprocket-pinion 7, so that the weight of the pendent body of the draft-chain will insure the meshed engagement of the links of said chain with the sprocket-teeth *b*', as indicated in Fig. 1. A bracket-loop 6<sup>a</sup> is secured upon the jack-frame near its closed end, and in arranging the device for service a substantial stake 18, of wood or metal, is driven upright into the ground at a proper distance away from the end post A of the line of fencing to be erected, the relative position of the post alining it with the series of fence-posts forming portions of the fence under construction. The bracket-loop 6<sup>a</sup> is mounted upon the stake 18, and tension is given to the flexible connections 16 8 by manipulation of the main lever 10 in direction of arrow *x* in Figs. 1 and 2.

A proper degree of frictional resistance to rotary movement of the sprocket-pinion 7 in

direction of the arrow *x*' is effected by the adjustment of the washer and nut on the end of the pivot-bolt 9, so that the fence-wires B may be rendered taut by the pull of the draft-chain 8 on the yoke-chain 16; but it will be apparent that when the fence-wires B are all shortened as they are twisted by a suitable mechanism for the retention of pickets thereon, as before mentioned, the strain of the twisted wires may rock the sprocket-pinion in direction of arrow *x*', and thus compensate for the shortening of doubled wires B as they are twisted.

It is to be understood that when the tension device is in service the detent-pawl 12 must be held from engagement with the ratchet-wheel 7 by any suitable means.

It will be seen that by the provision of the hereinbefore-described mechanism a long stretch of wire fence may be erected and the proper tension of the wires B thereof be maintained while the fence is in process of erection.

Having described our invention, we claim as new and desire to secure by Letters Patent—

1. A fence-jack, comprising a jack-frame, a rotatable shaft near one end of said frame, a sprocket-pinion held on the shaft, a lever-and-ratchet device adapted to rotate the shaft and pinion, a tension device controlling the reverse movement of the pinion, comprising a washer and nut on one end of the shaft pressing upon a side of the jack-frame, a draft-bar connected with the fence-wires, and a sprocket-chain connection between the draft-bar and the sprocket-pinion.

2. In a fence-jack, the wire straining and tension device, comprising a substantially U-shaped frame, a bracket-loop at the closed end of the frame for engagement with a stationary support, a transverse shaft journaled in sides of the frame near its open end, a ratchet-wheel, and a sprocket-pinion secured together and loosely mounted on the shaft between sides of the frame, a rockable lever on the shaft at one side of the ratchet-wheel, a pawl thereon meshing with the ratchet-wheel, a clamping-washer on an angular-shaped end of the shaft which projects at one side of the frame, a nut on a threaded extension of the shaft adapted to press upon the washer, and a chain engaging the sprocket-pinion, and thence extending for connection with the fence-wire-supporting device.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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Witnesses:

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