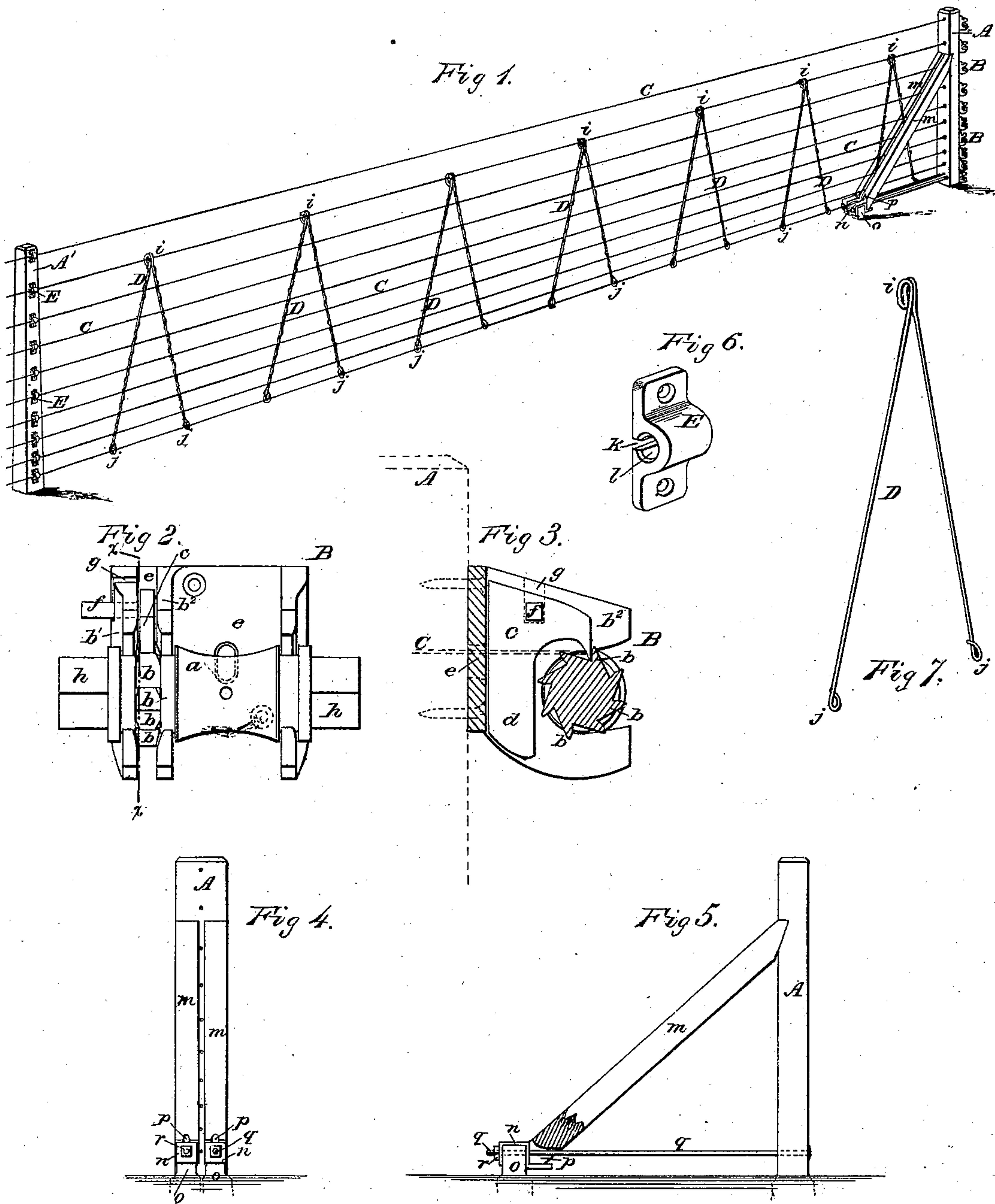


(No Model.)

D. CLEAVER.  
WIRE STRETCHER.

No. 363,805.

Patented May 31, 1887.



Witnesses  
L. L. King.  
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# UNITED STATES PATENT OFFICE.

DAVID CLEAVER, OF LEBANON, KENTUCKY.

## WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 363,805, dated May 31, 1887.

Application filed December 29, 1886. Serial No. 222,894. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID CLEAVER, a citizen of the United States, residing at Lebanon, in the county of Marion and State of Kentucky, have invented certain new and useful Improvements in Wire-Stretchers; and I do hereby 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 appertains to make and use the same.

My invention relates to improvements in wire-stretchers; and it consists in certain novel features of construction, as will be hereinafter first fully described, and then pointed out in the claim.

In the drawings, Figure 1 is a perspective view of an improved wire fence, showing the winding, tying, bracing, and keeping attachments. Fig. 2 is a front elevation of the winding mechanism. Fig. 3 is a transverse section of same, cut through line *x x* of Fig. 2. Fig. 4 is a front elevation of the post-bracing mechanism. Fig. 5 is a side elevation of same. Fig. 6 is a perspective view of the fence-wire keeper, and Fig. 7 is a similar view of the bifurcated or inverted V-shaped fence-wire tie.

Upon the outer face of the end fence-post, A, are securely attached winding mechanisms, head-blocks, or windlasses B, a windlass being provided for each strand of the fence-wire C. Constructed in the periphery of the drum *a* of the windlass are ratchets *b*. Operating upon these ratchets is a pawl or stop, *c*. This pawl (constructed with a feather or tail-piece, *d*, which loosely rides in a recess formed by the drum-bearings *b'* and *b''* at the sides, and by the ratchet portion of the drum and back plate, *e*, at the ends) is provided with a lifting-finger, *f*, projecting outside of the windlass-frame and riding loosely in slot *g*, cut into the upper edge of bearing *b'*. This pawl is kept in contact with the drum-ratchets by its own weight, and automatically rises out of one ratchet-recess and drops into the next as the drum or windlass is turned by means of a wrench applied to square ends *h* of the drum. In the usual form of wire-fence windlasses the rusting of the pawl-pivot, incidental to exposure to the weather, precluded the free working of the pawl on its pivot, and thus great difficulty has been experienced in tightening the fence-wires. In

my improved windlass this difficulty is entirely obviated.

A series of bifurcated wire ties, D, of an inverted-V shape, are securely lashed or tied to each crossing strand of fence-wire, the hook or loop *i*, constructed on the upper or angle end, engaging with one of the upper strands, preferably the one next to the top, while the hooks or loops *j* on the two lower extremities of the brace engage with the lowermost strand. These ties are located at stated and constant intervals with reference to each other, the distance between the sides of two contiguous braces being equal to the distance between the two lower ends of each tie, as shown in Fig. 1. This novel method of locating and attaching the braces evenly distributes the bearing strain on the several strands of fence-wire, and while adding strength to the fence also admits of the intervening posts being located farther from each other than has heretofore been the custom.

Upon intervening posts, A', are screwed or otherwise fastened keepers E. These keepers are each provided with a slot or passage-way, *k*, and enlarged orifice *l*. By means of this peculiarly-shaped keeper the wire, while held away from frictional contact with the post and supported in its proper location, is left to freely slip forward as it is being tightened by the windlass, the slot forming a passage-way for the already-stretched wire to pass into the enlarged orifice prior to fastening the keeper to the post.

Post-braces *m m* are let in at their upper ends to the end or head-block post, A, and are located with reference to each other in such a manner as to leave a passage-way for the strands of fence-wire to pass between them, as shown in Figs. 1 and 4. The lower ends of these brace-posts are seated in metal shoes *n n*, which are so constructed as to also form caps for small supplemental posts *o o*. Slots *p p* are also cut into the lower ends of the post-braces, by which connecting or brace rods *q q* are "saddled." The brace-rods pass through the head-block post, and, running under the saddle on the lower ends of brace-posts, pass through the metal shoes and supplemental posts and are secured in place by a nut, *r*, as shown. By means of this saddle construction



the post-braces can be put in place and removed without having to withdraw the rod.

I am aware that head-blocks or windlasses provided with drums having ratchets and pivoted pawls constructed thereupon have heretofore been used; that single upright wire braces or ties have heretofore been wrapped to crossing strands of fence-wires; that staples or other equivalent devices have been adopted to hold the several strands of wire fence in their proper places, and that post-braces fitting in metallic shoes located on supplemental posts (the several parts being tied together by a brace-rod) have been used, and are therefore not broadly claimed herein; but

What I do claim, and desire to secure by Letters Patent, is—

In a wire fence, the combination, with the

post, of a head-block secured thereto and having the projecting bearing-plates  $b'$   $b^2$  near one end, the windlass journaled in the head-block and having the ratchet-drum between the bearing-plates  $b'$   $b^2$ , the automatic pawl having the head for engaging the upper side of the ratchet-drum, and the downwardly-extending shank, and the lifting-finger projecting laterally therefrom and normally resting in a notch,  $g$ , formed in the upper edge of the bearing-plate  $b'$ , as specified.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID CLEAVER.

Witnesses:

J. M. RAINS,

J. A. BOWMAN.