

(No Model.)

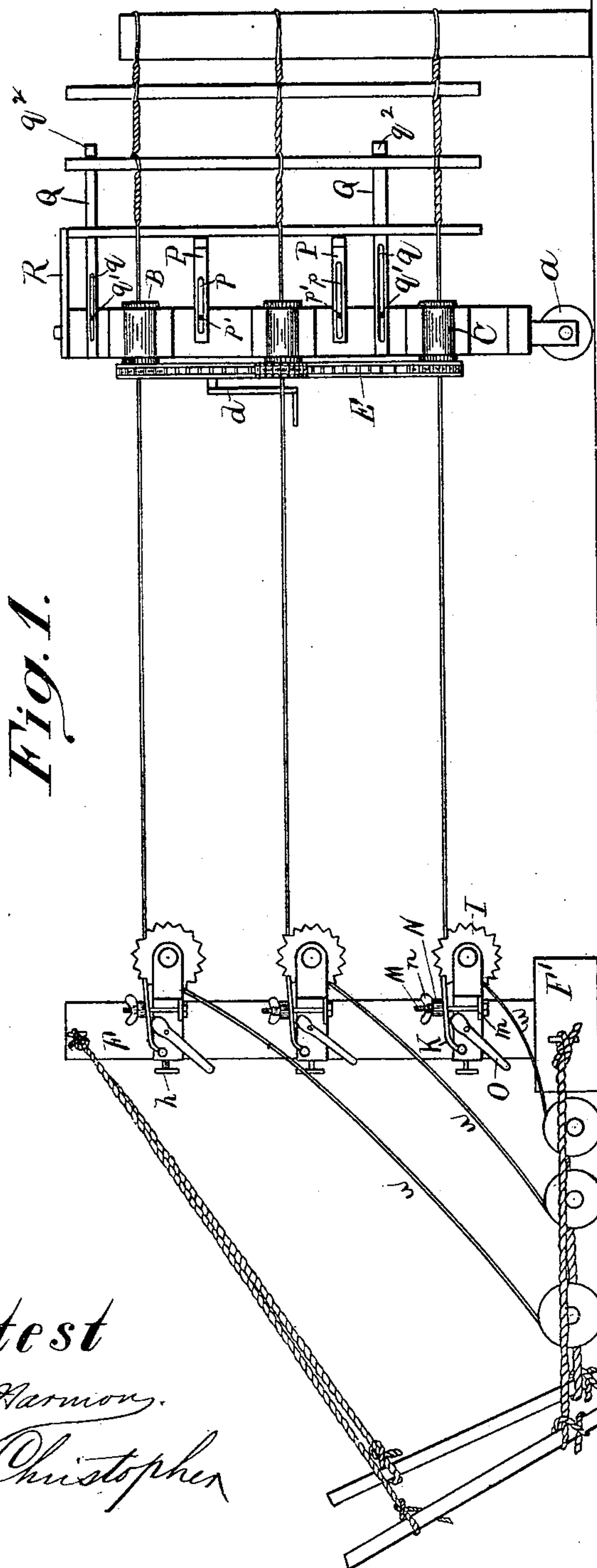
2 Sheets—Sheet 1

B. L. FLETCHER &amp; S. C. TATUM, Jr.

WIRE FENCE MACHINE.

No. 354,118.

Patented Dec. 14, 1886.



*Attest*

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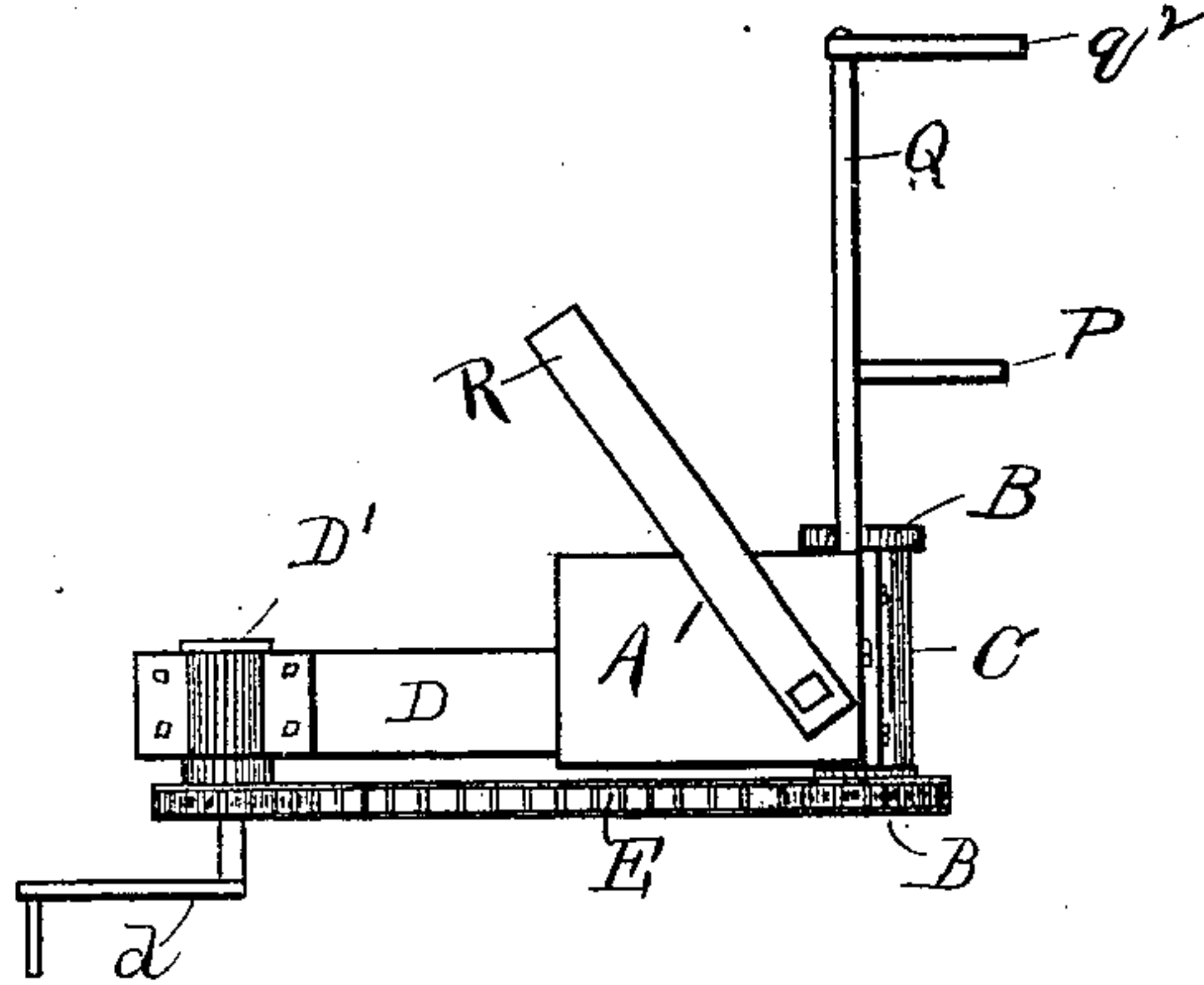


Fig. 6.

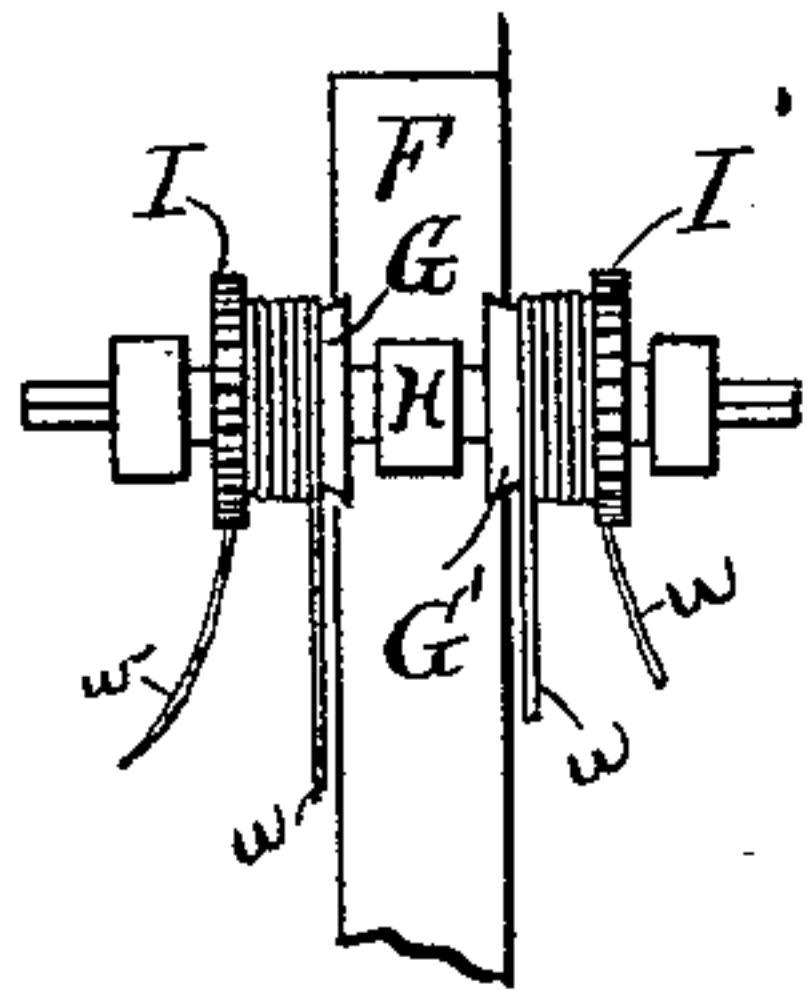


Fig. 4.

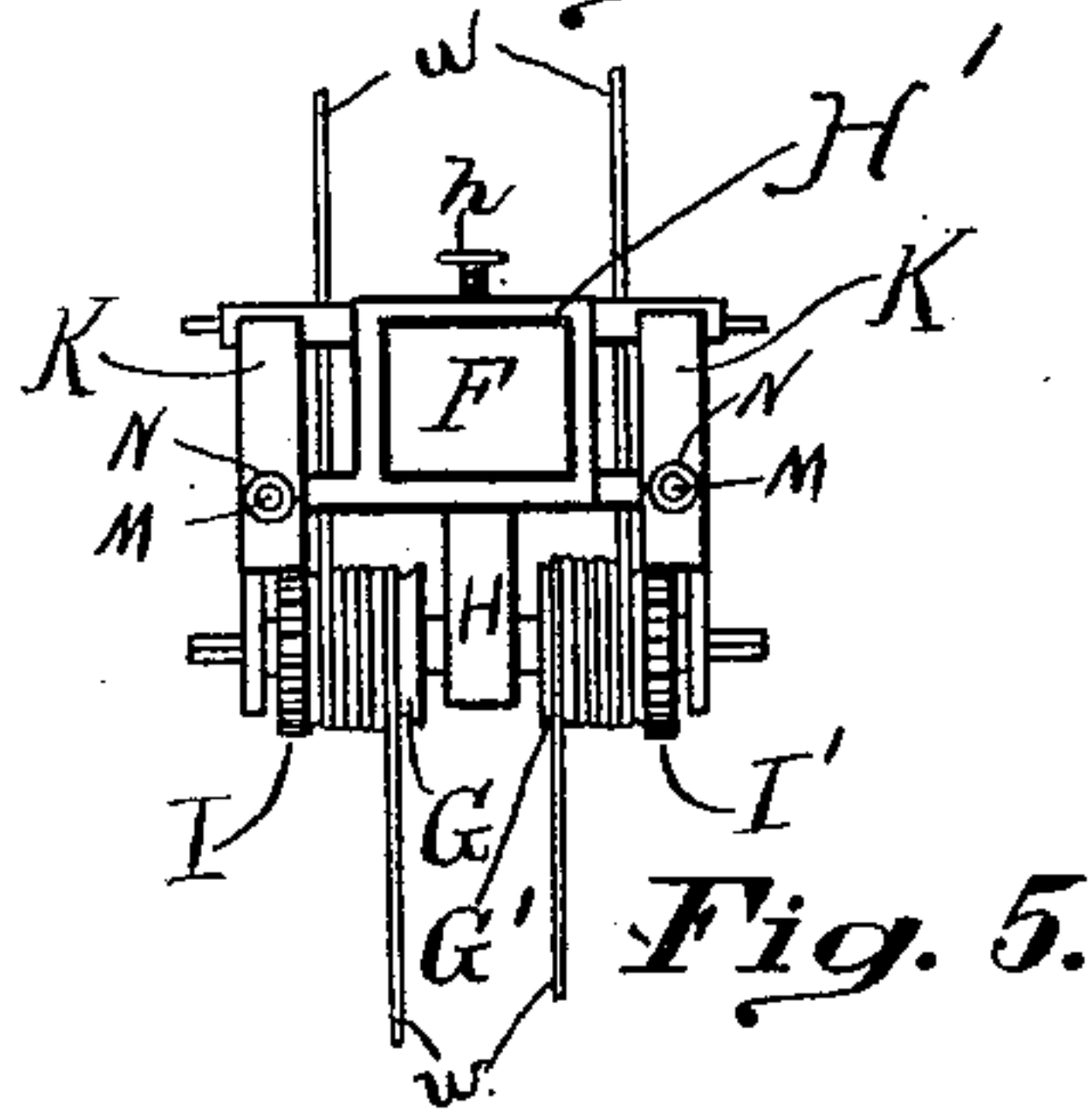


Fig. 5.

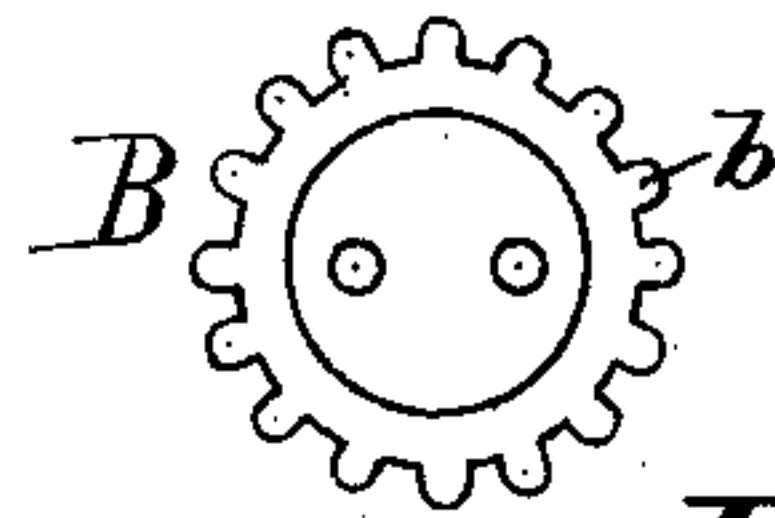


Fig. 3.

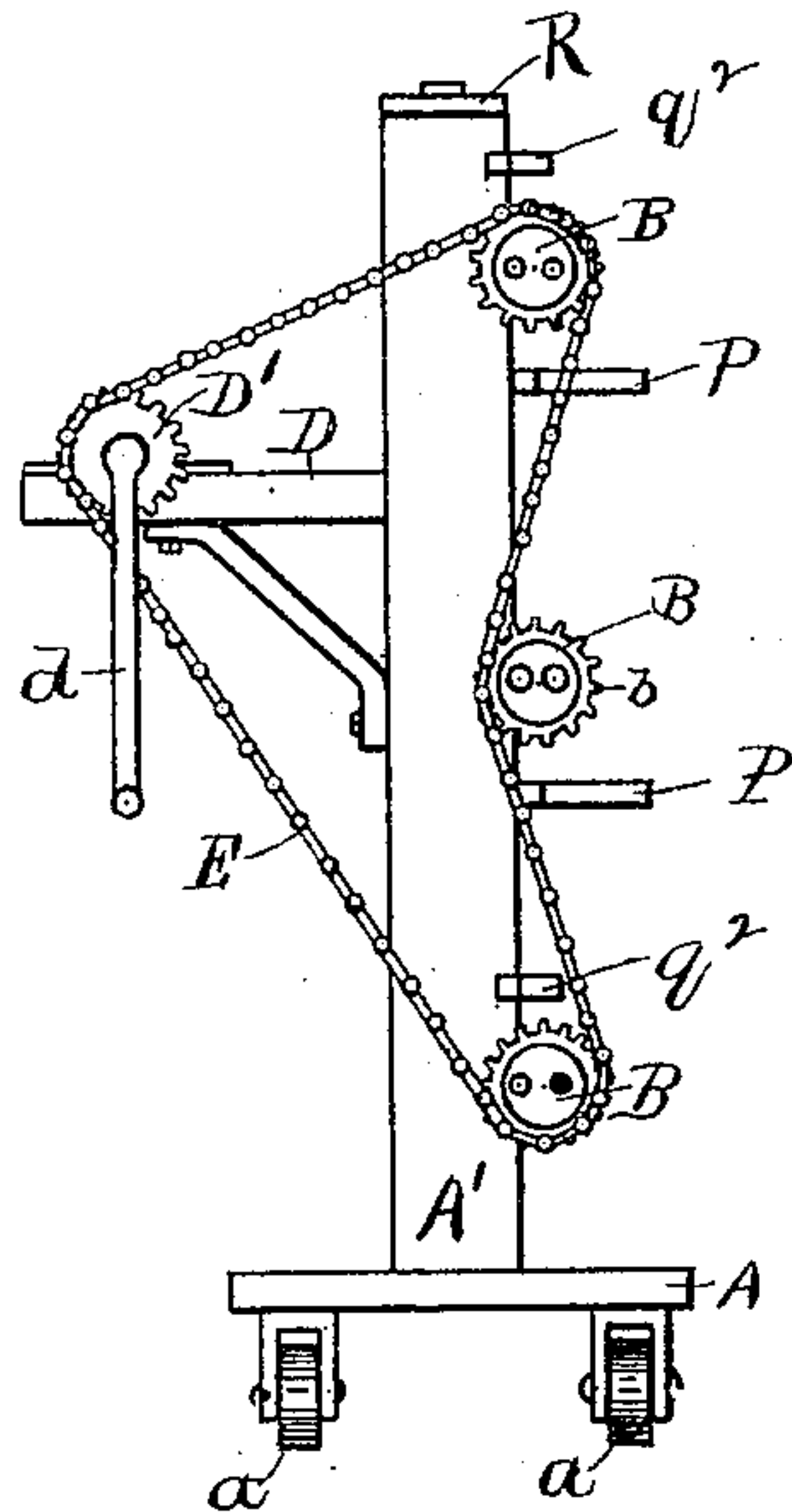


Fig. 2.

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# UNITED STATES PATENT OFFICE.

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## WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 354,118, dated December 14, 1886.

Application filed May 10, 1886. Serial No. 201,789. (No model.)

*To all whom it may concern:*

Be it known that we, BENJAMIN L. FLETCHER and SAMUEL C. TATUM, Jr., of Cincinnati, in Hamilton county, and State of Ohio, have  
5 invented certain new and useful Improvements in Wire-Fence Machines, of which the following is a specification.

The various features of our invention and its advantages will be apparent from the following description.

In the accompanying drawings, Figure 1 is an elevation of a fence in process of construction, the machine being shown in position. Fig. 2 is an elevation of our machine, looking  
15 at the left-hand end in Fig. 1. Fig. 3 is an end view of a twisting-head. Fig. 4 is a front elevation of the rollers in the twisting device. Fig. 5 is a top view of the post and tension device shown at the left-hand end of Fig. 1.  
20 Fig. 6 is a plan view of the machine.

The twisting-machine itself is quite simple. The base A is mounted on rollers *a*, and has the vertical post A' rising from it. A series of twisting-heads, B, preferably from three to  
25 five in number, are journaled to the side of the post A' by the boxes C. The ends of each twisting-head are preferably enlarged, forming shoulders which retain the twisting-head within the journal. Each twisting-head is  
30 also provided at one end with teeth *b*. On the opposite side of the post to which the twisting-heads are attached a bracket, D, is secured. This bracket supports the toothed pinion D', which is provided with the crank  
35 *d*. The chain E passes over the pinion D', and the toothed ends of the twisting-heads B in the manner shown in Fig. 2. The chain E is provided with links which fit over the teeth of the wheels over which it passes, and serves to  
40 transmit motion from the driving-pinion D' to the twisting-heads.

In making a wire fence in the field it is necessary to have at the end of the fence toward which the twisting-machine is making its way  
45 a stout post from which the wires are stretched, and which is provided with a device or devices to govern the tension of the wires. This post F, preferably mounted on a base piece, F', is to be securely anchored to the ground  
50 by any of the well-known devices for that pur-

pose—such, for instance, as the guy-ropes shown in Fig. 1. This post is provided with a tension device for each pair of wires used in the fence. These tension devices are shown in Figs. 1, 4, and 5. Each tension device has two  
55 pulleys, G and G', journaled in a suitable bracket, H. This bracket is preferably provided with an encircling band, H', which is slipped over the post F, and which is clamped at any desired height by the screw *h*. The  
60 two pulleys are provided, respectively, with ratchet-wheels I and I', rigidly attached to the outer faces of the pulleys, as shown.

The tension device is the same for each pulley, and the description of one will answer for  
65 both. A leaf, K, is hinged to the back of the band H', and, extending forward, rests on the teeth of the ratchet I. A rod, M, secured to a lug, *m*, projecting from the band H', extends upwardly through an opening in the leaf K. A  
70 thick elastic washer, N, is slipped over the rod M and rests on the leaf K. A thumb-screw, *n*, is screwed down onto the washer N and regulates the pressure of the leaf K on the ratchet-teeth. The lever Q, fulcrumed to the  
75 band H', is so placed that by forcing it into a vertical position it lifts the leaf K above the teeth of the ratchet and removes all tension from the pulleys G G'.

The wires may be conveniently held in reels,  
80 (shown in Fig. 1,) and as they are carried forward each wire is passed two or three times around one of the pulleys G G', so as to give the wire a firm hold thereto. The wires are then carried to the other end of the line or fence,  
85 passed through the twisting-heads in the usual manner, and secured to the starting-post.

It is desirable to have the twisting-machine provided with a device or devices for regulating the distance between the palings, and also  
90 with means for keeping the top of the fence even. The post A' has two or more bumpers, P, each of which is attached to it by a clamp-screw, *p*', passed through a slot, *p*, in the bumper. The post A' also has guides Q, similar to the bumpers P. Each guide Q is provided with a slot, *q*, and is attached to the post  
95 A' by a clamp-screw, *q*'. The end of each guide Q is provided with a finger, *q*<sup>2</sup>, pivoted to the end of the guide. The gage R is piv- 100



oted to the top of the post, and is capable of motion in a horizontal plane.

The mode of operation is most readily described by assuming the fence to be partly constructed. A paling, as 2, having been woven in, the next paling, 3, is inserted between the wires and forced into position by the bumpers P, which are operated by moving the whole machine back and forth. During the operation of bumping the fingers  $q^2$  are turned up, so as to be out of the way of the fence. The new paling is forced between the wires by the bumpers until the fingers  $q^2$  can be brought behind the last paling woven in, as shown in Fig. 1. In this way the palings are kept equally distant. The guide R serves to keep the tops of the palings even. The paling having been placed in proper position, where it is held by the pressure of the wires upon it, the crank  $d$  is turned, and each set of wires is twisted, thus weaving the paling in. These operations are repeated for the insertion of each paling, care being taken to turn the crank  $d$  first in one direction and then in the other to prevent twisting of the wires behind the machine. The shortening of the wires produced by the twisting necessitates the continual feeding of wire to the machine, and at the same time the wire must be kept at a uniform, or nearly uniform, tension. As the wire becomes shorter it tends more and more to unroll the pulley G. This tendency is resisted by the pressure of the spring K on the teeth of the pinion I. When the tension of the wire exceeds the pressure of the spring K, the

pinion I turns slightly, one tooth slipping past the spring. The increase in the length of the wire afforded by this movement permits the work to go on, but does not materially reduce the tension. The tension of the wire is regulated by the nut  $n$ , by which the pressure of the spring K is either increased or diminished.

It is necessary with this machine that alternate twists be in opposite directions.

What we claim as new and of our invention, and desire to secure by Letters Patent, is—

1. As a tension device for a wire-fence machine, the combination of the pulley G, provided with toothed wheel I, and supported in a suitable bracket, leaf K, and tension-screw M and nut  $n$ , substantially as specified.

2. As a tension device for a wire-fence machine, the combination of the pulley G, provided with toothed wheel I, and supported in a suitable bracket, leaf K, tension-screw M and nut  $n$ , and elastic washer N, substantially as and for the purposes set forth.

3. As a tension device for a wire-fence machine, the combination of the pulley G, provided with toothed wheel I, and supported in a suitable bracket, leaf K, tension-screw M and nut  $n$ , elastic washer N, and lever O, substantially as and for the purposes specified.

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