

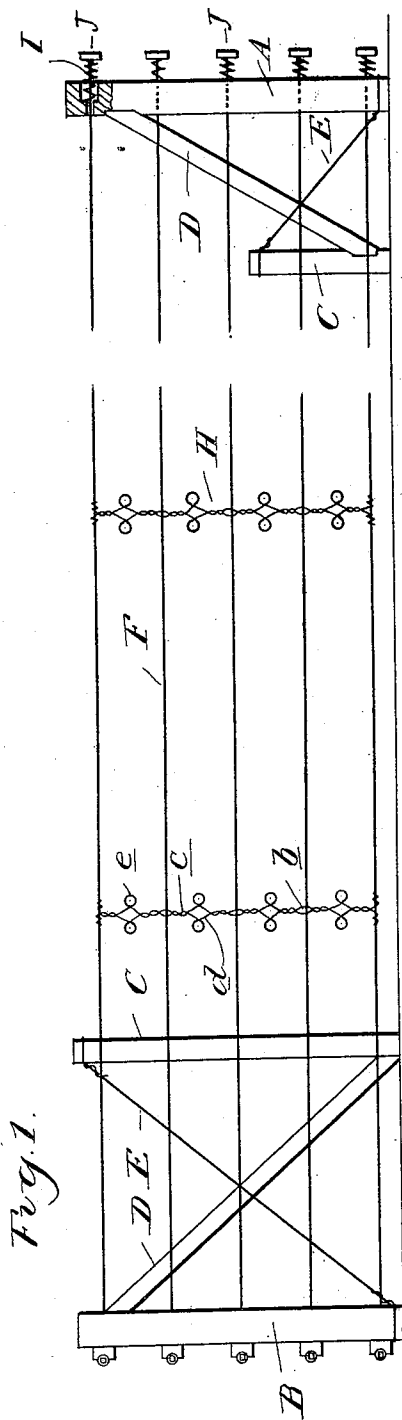
(No Model.)

2 Sheets—Sheet 1.

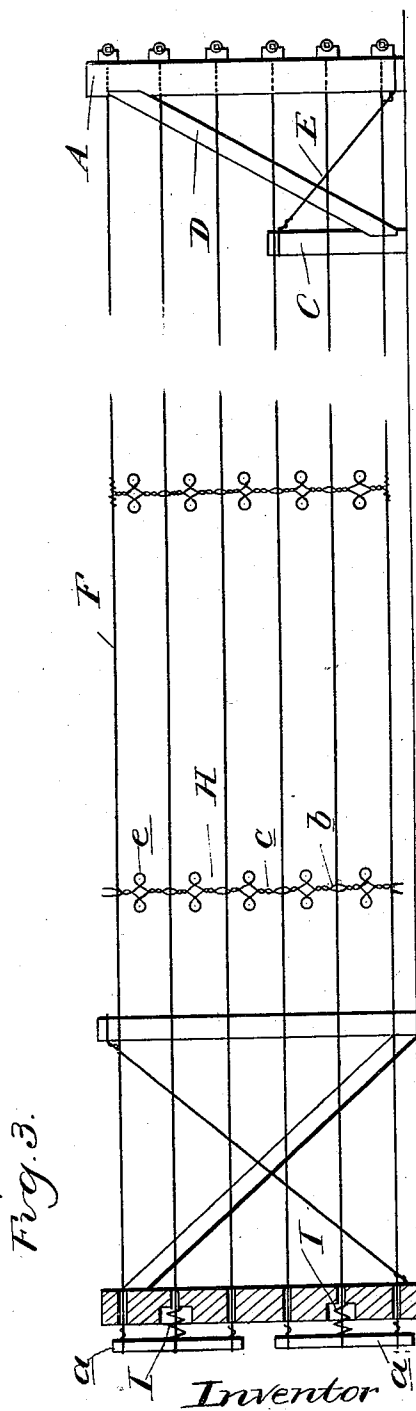
H. HAYNES.
WIRE FENCE.

No. 510,257.

Patented Dec. 5, 1893.



Witnesses
A. C. Kobbie
N. L. Lindop



Inventor
Harry Haynes
By *Wm. Sprague* Son
Attys.

H. HAYNES.
WIRE FENCE.

No. 510,257.

Patented Dec. 5, 1893.

Fig. 2.

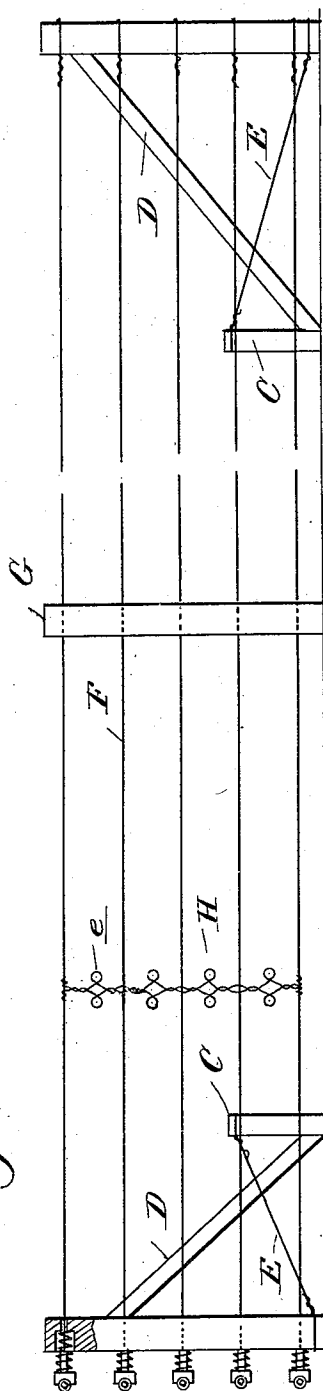


Fig. 1.

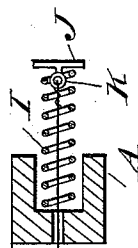


Fig. 5.

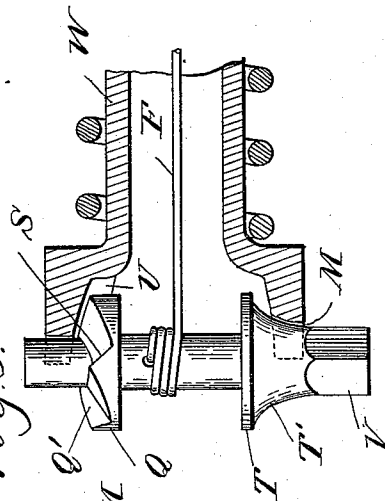
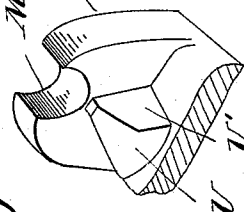


Fig. 6.



Witnesses
N. L. Hobbie
N. L. Lindop.

Inventor
Harry Haynes
By Jno. S. Sprague Son,
Atty's.

UNITED STATES PATENT OFFICE.

HARRY HAYNES, OF COLDWATER, MICHIGAN.

WIRE FENCE.

SPECIFICATION forming part of Letters Patent No. 510,257, dated December 5, 1893.

Application filed October 31, 1892. Serial No. 450,496. (No model.)

To all whom it may concern:

Be it known that I, HARRY HAYNES, a citizen of the United States, residing at Coldwater, in the county of Branch and State of Michigan, have invented certain new and useful Improvements in Wire Fences, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the peculiar construction of a wire fence, and particularly in the peculiar construction of a tension device, all as more fully hereinafter described.

In the drawings, Figure 1 is an elevation of a fence embodying my invention. Fig. 2 is a similar elevation showing a slightly modified form of the same and with one of the end posts partly in section. Fig. 3 is a similar view with an end post in section showing another modification. Fig. 4 is a horizontal section through the two end posts as shown in Fig. 1. Fig. 5 is a horizontal section through the end post shown in Fig. 2. Fig. 6 is a detached perspective view of a part of the tension bracket.

A and B (Fig. 1) are the two end posts.

C are the brace posts secured a short distance in advance of the end posts.

D are braces extending from the top of the end posts to the bottom of the brace posts, and E are tie rods extending from the top of the brace posts to the bottom of the end posts, giving a firm support for the end of the fence structure to resist the strain put upon the wires by the tension device.

F is a series of wires of a suitable size or design extending from one end post to the other through suitable intermediate posts G which are placed as often as necessary and suitable stays H intermediate of the posts, the construction of which will be hereinafter more fully set forth.

The object of my invention is to put an even tension upon all the wires in the fence and to so construct them that any ordinary contraction or expansion will be taken up by a spring, but providing a tension spool which when the spring has been compressed to its limit upon the application of undue pressure will automatically relax and re-lock to pre-

vent the breaking of the wire. To accomplish this end I preferably provide each wire separately with a spring tension device and a winding device applied at opposite ends of the fence section, as shown in Fig. 1. Instead of applying these devices at opposite ends they may be applied at the same ends, as shown in Fig. 2, or it may be satisfactory in certain instances where but short sections of fence are to be built, to use an equalizing lever with a single spring having three wires, each wire in such group being provided with a winding tension device or drum. This construction I show in Fig. 3. In Fig. 1 the wires are shown as passed through the two end posts, the end post A being provided on its outer face with sockets through which the wires pass centrally and in which springs I engage, the end of the wire being secured to the cross-bar or pin J, extending across the outer end of the spring at the other end, as shown in Fig. 4. This cross-bar I preferably provide with an eye K extending into the spring in which the end of the wire is secured. Upon the outer face of the end post B, I secure a drum or spindle tension device, one for each wire of the construction shown in Fig. 4.

L is a bracket secured to the post and apertured to allow the wire to pass centrally through the same. At its ends this bracket is provided with flanges M in the end of which are formed the half bearings M'.

O is a shaft or spindle which is journaled in the half bearings, being held therein by the tension of the wire, the end of which passes through an aperture P, the wire being held thereon by turning the spindle and coiling the wire about the same, as plainly shown in Fig. 5.

Q is a wheel formed on the spindle O within the flanges M and having the teeth Q' formed on its outer face. These teeth form ratchet teeth but the locking face thereof instead of being square as in ordinary constructions or ratchet wheels, has a beveled face, as shown at S.

T is a wheel formed on the spindle O within the flanges M leaving a suitable winding space between the two wheels and having a conical

bearing T' engaging in the half bearings M' on the flange of the bracket.

U is a lug or tooth on the bracket in the path of the ratchet teeth Q' having a slightly inclined face U' against which the beveled face S of the tooth is adapted to engage.

V is a squared end of the shaft or spindle upon which a crank or wrench is to be placed to turn the same.

10 The operation of this device is as follows: The wire being stretched from end to end of the section and secured through the spring, as shown in Figs. 1 and 4 at one end, at the other end it is passed through the aperture
15 in the spindle O and that spindle is rotated in its bearing until the proper tension is given to the wire. The engagement of the bevel face S against the face U' of the tooth U will prevent the spindle from turning to release
20 the tension, the pitch given to these faces being such as to form a lock under ordinary tension and at the same time the conical face T acts to oppose any end motion of the spindle which would release the ratchet wheel from
25 the tooth U. In case the contraction of the wire is sufficient to compress the spring K to its limit any further contraction will overcome the friction of the bevel face S against the inclined face U' forcing the spindle end-
30 wise against the friction of the conical bearing, allowing the spindle to unwind a quarter turn or more according to the tension. As soon as the apex of the tooth Q' passes the tooth U, the conical bearing T' will force the
35 spindle longitudinally and cause the next tooth to engage and hold the wire until the tension has increased sufficiently to repeat the operation just described. Thus I absolutely prevent any possibility of the wire's
40 breaking under any circumstances, on account of the contraction thereof. Instead of putting the spring and the spindle at opposite ends they may be placed at the same end by forming the bracket with a sleeve W, as
45 shown in Fig. 5, sliding within the spring.

In Fig. 3 I have shown the spool tension device for each wire on the post A, while on the post B I have shown the wires arranged in two groups of three each, the wires of each
50 group being connected at the ends and cen-

tral of equalizing levers a, a single spring T being arranged centrally of the lever.

H is a stay having eyes b through which the wires pass, and ornamental loops e.

What I claim as my invention is—

1. In a fence, the combination of the end posts, a wire stretched between the same, and an automatically releasing tension drum applied to said wire having a conical bearing surface for retaining the drum in its initial position substantially as described. 55 60

2. In a fence, the combination of the end posts, of a wire stretched between the same, a tension spring and an automatically releasing tension drum applied to said wire having a conical bearing surface for returning the drum to its initial position, substantially as described. 65

3. In a fence, the combination of the end posts, a series of wires stretched between the same, spiral springs engaging in sockets in the outer face of one end post, cross bars to which the ends of the wires engage bearing against the ends of said spring and a winding drum for each wire consisting of a sliding shaft having locking means at one end and a conical bearing at the opposite end, substantially as described. 70 75

4. The combination of the post, the bracket, the winding drum journaled in the bracket, having a ratcheted head engaging a lug, and a conical bearing acting to shift the ratchet into its locked position, substantially as described. 80

5. The combination of the post, the bracket having two end flanges with half bearings therein, a shaft journaled in said bearings, a flange on the shaft, a ratchet on the face of said flange engaging a lug on the bracket, and a conical bearing at one end of said shaft engaging one of the half bearings and acting to shift the ratchet into its locked position, substantially as described. 85 90

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

HARRY HAYNES.

Witnesses:

N. L. LINDOP,

M. B. O'DOHERTY.