L. H. BELTZER.

WIRE FENCE TIGHTENER.

APPLICATION FILED SEPT. 23, 1906.

Fig. 1

Fig. 2

Fig. 3

Witnesses

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Att'y
This invention relates to wire-strand-fence tighteners; and my object is to produce a device of this character which will operate efficiently and reliably.

A further object is to produce a device of this character of simple, strong, durable, and cheap construction.

With these objects in view the invention consists in certain novel and peculiar features of construction and organization hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a side view of a woven-wire fence equipped with a tightenitg embodiment my invention, the fence and tightenitg being broken away. Fig. 2 is an enlarged section taken on the line II II of Fig. 1 and showing the initial positions of the tightenitg and fence in full lines and a subsequent position which said parts assume in dotted lines. Fig. 3 is an inverted plan view, enlarged, of the widening-rod and the attachment for the upper end of the same. Fig. 4 is an enlarged central vertical section of the attachment for use in tightening a single strand of wire.

In the said drawings, A indicates a section of a woven-wire fence; 1, a widening-rod consisting of two semicylindrical sections 2, having their ends tapered, as at 3, and adapted to be clamped against opposite sides of the longitudinal or strand wires of the fence by a bolt 4 and nut 5, and extending through the tapered ends of said rod above and below the fence are cross-pins 6, which pins by preference will be rigid with one of the semicylindrical sections.

7 indicates a widening-drum provided with a conical or tapered bore 8 and at one side with a cylindrical hub 9.

10 indicates a ratchet-wheel forming one side or flange of the hub, and 11 a reduced cylindrical projection at the opposite side or flange of the drum.

12 indicates diametrically opposite notches in projection 11, diagonally opposite sides of the drum, diametrically opposite sides of said grooves being provided with offsetting grooves 15 of the same character as grooves 13.

14 indicates diametrically opposite notches extending through projections 11 and into the drum, diagonally opposite sides of said grooves being provided with offsetting grooves 15 of the same character as grooves 13.

16 indicates a spring-cotter extending diametrically through the hub 9, and 17 is a retaining-collar journeled on the hub between 18 and 19, and said head is provided with an elongated slot 20, fitting upon the hub between the collar and ratchet-wheel.

18 indicates a lever provided at one end with a wide head 19, of less thickness by preference than the handle portion of the lever, and said head is provided with an elongated slot 20, fitting upon the hub between the collar and ratchet-wheel and held by the former snugly against the latter. 21 indicates a tooth formed integral with said head and handle portions of the lever and adapted at times to engage the ratchet-wheel to prevent rotation of the same, and said lever is provided with a hook 22 at its outer end, the open side of said hook being disposed in the direction in which the tightened wire, as hereinafter explained, tends to turn the ratchet-wheel.

When it is desired to tension a strand-wire fence, the widening-rod is secured to the fence, as explained. An attachment for turning the same of the character described is then fitted upon the upper and lower tapered ends of said rod with the pins 6 of the latter extending diametrically through notches 13 of the juxtaposed attachment. A wrench of any suitable character is then engaged with the squared end 23 of one of the hubs and turned to impart rotation to the widening-rod, so as to take up slack in the fence by winding on such rod, as indicated in dotted lines, Fig. 2, and in full lines to a greater extent in Fig. 1, it being noted in this connection that the opposite ends of the cross-pins in the operation described will lie in the diagonally opposite grooves 15 to prevent accidental dislocation between said pins and the attachment. When the fence is tightened sufficiently, the hooks of the levers are caused to engage the top and bottom wires, respectively, of the fence, and the levers are moved longitudinally, because of the elongated slots 20, a sufficient distance to effect engagement between their teeth 21 and adjacent ratchet-wheel 10. As thus arranged they lock the widening-rod against back rota...
tion and hold the fence in its tensioned or tightened condition.

The tightened may obviously be employed to simultaneously tighten paralleled but dis-connected strand-wires of the fence, such as a barb-wire fence. If it be desired to tension any individual wire, the winding-rod and one of the attachments can be dispensed with. In this case the wire to be tightened 10 is engaged with the diametric notches 14 of the other attachment, said attachment being then rotated by means of a wrench to wind said wire upon the drum 7 in an obvious manner, the lever being again utilized to inter- 15 lock in the ratchet-wheel 10 of said drum and with the tensioned wire to prevent unwinding movement of the drum, and consequent slackening of the wire. When it is desired to remove the attachment or to give 20 the wire more slack, the lever is moved longitudinally to withdraw its tooth from engagement with the ratchet-wheel, this action permitting the tensioned fence or wire to unwind from the winding rod or drum, as the case may be.

From the above description it will be apparent that I have produced a fence or wire tightening embodying the features of advantage enumerated as desirable in the state- 30 ment of the object of my invention, and I wish it to be understood that changes may be resorted to without departing from the scope of the appended claims.

Having thus described the invention, what 35 I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the character described, a winding-drum provided with diametrically opposite notches, a hub and a ratchet-wheel, in combination with a lever provided with an elongated slot engaging the hub, a tooth to engage the ratchet-wheel and a hook to engage the wire tightened.

2. In a device of the character described, a winding-drum provided with diametrically opposite notches, a hub and a ratchet-wheel, in combination with a lever provided with an elongated slot engaging the hub, a tooth to engage the ratchet-wheel and a hook to engage the wire tightened, and means to hold the lever snugly against the ratchet-wheel.

3. In a device of the character described, the combination of a winding-rod consisting of two sections adapted to be clamped against opposite sides of a strand-wire fence and project above and below the same, a pair of cross-pins mounted in the projecting ends of the rod, a winding-drum fitted upon each end of the rod, provided with radial notches engaging the adjacent cross-pin, a hub rigid with the drum, a ratchet-wheel rigid with the drum, a lever provided with an elongated slot engaging the hub of the drum, and with a tooth adapted to engage the ratchet-wheel, and a hook rigid with the outer end of the lever and adapted to engage the contiguous strand-wire of the tensioned fence, the hooks of said levers being disposed at opposite sides of the winding-rod and facing in opposite directions.

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

LEWIS H. BELTZER.

Witnesses:

W. H. HAYMAN,
WM. M. FRANCIS.