

(No Model.)

J. B. MORRIS.
WIRE FENCE TIGHTENER.

No. 537,543.

Patented Apr. 16, 1895.

Fig. 1.

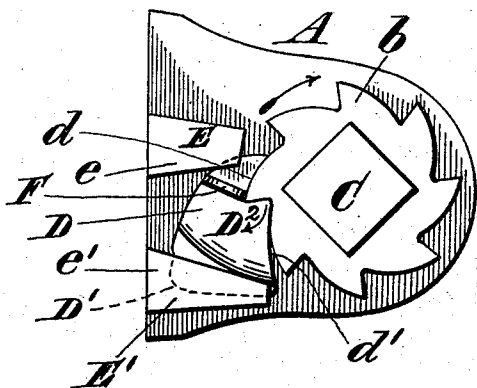


Fig. 2.

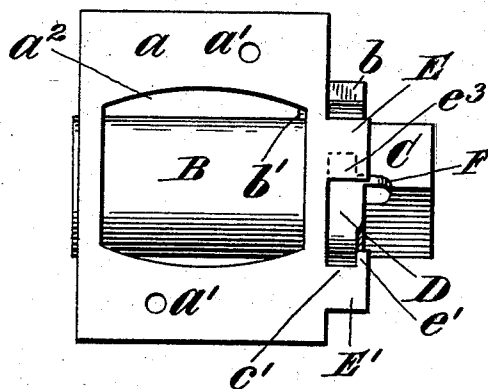


Fig. 3.

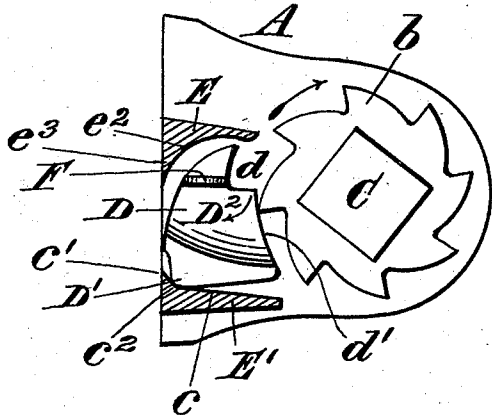
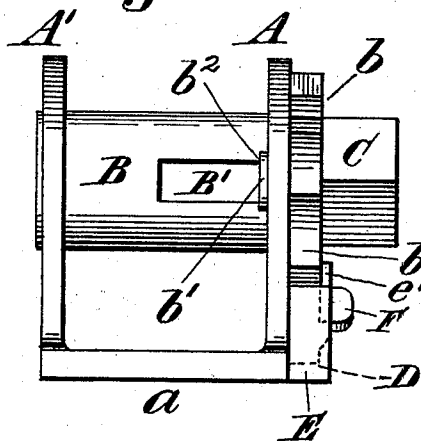


Fig. 4.



Attest

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UNITED STATES PATENT OFFICE.

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WIRE-FENCE TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 537,543, dated April 16, 1895.

Application filed November 12, 1894. Serial No. 528,470. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. MORRIS, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain new and useful Improvement in Wire-Fence Tighteners, of which the following is a specification.

My invention relates to automatic ratchet-devices for use in locking wire-fence tighteners or stretchers, the novel features of which are fully hereinafter described and particularly pointed out in the claim.

In the accompanying drawings—Figure 1 is a side elevation of a wire-fence tightener showing my improved ratchet-device in locking or holding engagement with the strainer-drum; Fig. 2, a rear elevation of the same; Fig. 3, a side elevation similar to Fig. 1, but showing the winding-drum advanced almost the length or distance of another ratchet-tooth, and indicating the position my gravity or drop pawl assumes when rocked or thrown back in its housing by said advance movement of the drum, said housing being shown in section with its sides or guards removed; and Fig. 4, a plan view of Fig. 1.

A and A' represent the two customary side-pieces or cheeks of a wire-tightener frame or casing, and a the back-plate thereof, connecting them at their rear ends and provided with the holes a', a', for the reception of the usual bolts or screws to secure the device in place on a standard or post. Back a has the usual wire-orifice a².

B is a horizontal drum or shaft, journaled in the customary bearing openings or orifices made in the cheeks A and A', and having cast, at one end thereof, the circular series of ratchet-teeth b, forming a ratchet head or rim which abuts on the outer-face of cheek A. This drum is provided with the usual slot or elongated opening B', for the reception of the end of the wire to be wound thereon, and a cotter or key b' is inserted in the widened end b² thereof, to retain the drum in the frame, free to rotate therein. On the outer face of the ratchet-rim of the winding-drum, the usual central polygonal-head C is constructed for the application of the winding wrench, hand-crank, or other suitable turning-device.

D represents a gravity, rock ratchet or detent-pawl loosely mounted in a two part open-

housing comprising a pair of flanged guard-pieces constructed on the outer face of cheek A, and adapted to engage automatically the respective teeth of the ratchet-head, thereby preventing the backward motion of the winding-drum. This ratchet has an L-shaped notch d constructed in its upper portion, coinciding in outline with that of the ratchet-teeth b and adapted to receive and seat the latter firmly when in engagement therewith, as best seen in Fig. 1. The lower portion of the ratchet or drop D is constructed with a rounded pivot-corner or rocker-point D', and its lower edge or bottom is preferably straight, for the reasons presently hereinafter described. The said housing or ratchet-box on cheek A is composed of an upper piece or section E, and a lower piece or section E', each having an outer wall or guard-flange e and e', respectively, to prevent lateral movement or displacement of the ratchet. The ratchet is made somewhat thinner at top and bottom than in the center, to fit loosely within the said flanged guard-pieces of the housing and thus permit the construction of said housing at a lesser depth, but maintaining the said center of the ratchet at the same thickness as the ratchet-teeth and imparting the desired strength where the tension of the ratchet-teeth is exerted on the tooth-proper D² of said ratchet. The inner face c of the housing-chamber or flanged guard-piece E' is made at an inclination upwardly and rearwardly, terminating in an elevated rear-wall c', and having a concave-portion c² in which the rounded pivot-corner D' of the ratchet rests, and rocks or pivots when the winding drum is rotated, as best seen in Fig. 3. The straight portion of the inclination c coincides with the straight bottom of the ratchet, which enables the latter to rest firmly when in active engagement with the strained ratchet-head, as seen in dotted-lines, Fig. 1. The bottom c² of the upper housing-chamber or flanged guard-piece E, is concaved to permit the proper pivotal-movement of the ratchet, when the latter is rocked backward or forward on the turning of the drum, the teeth b of the latter riding against the face d', to throw or rock, said ratchet backward, as seen in Fig. 3. The rear-walls c' and e² of said housing-chambers or flanged guard-pieces E' and E, respectively, prevent

the ratchet falling out rearwardly, and a lug F projects laterally from the ratchet at its upper portion, adjacent the angle of notch *d*, whereby the ratchet may be readily disengaged from the ratchet-teeth and held back when it is desired to let the drum run backward to unwind the wire. The ratchet is placed in position in the housing from the inner ends of the latter and before the winding-drum has been inserted in the bearing cheeks or frame.

The flanged guard-pieces forming the two-part housing are preferably cast integral with the cheek A, no coring whatever being necessary, and the whole of my device is constructed and maintained with but little difficulty and at trifling expense, as compared with other similarly-used ratchet-devices.

In the operation of my rocker-ratchet-device, no lubricating thereof is necessary, and the ratchet drops forward to place quickly and positively, and always presents its tooth *D*² to the ratchet-teeth, to catch firm hold of

the ratchet-head, no matter how fast or slow the drum may be turned.

I claim—

In a fence-wire tightening-device, the combination of a suitable frame; a winding drum or spool-shaft journaled therein; a ratchet-head on said drum; a housing composed of upper and lower flanged guard pieces or sections E and E' constructed on the face of said frame adjacent said ratchet-head; and a rock-pawl or drop-detent freely pivoted on an inclined bottom in the lower flanged guard-piece of said housing and having a lateral releasing-lug F and an upper notch *d*, which latter engages the respective teeth of said ratchet-head, substantially as herein set forth.

In testimony of which invention I have hereunto set my hand.

JOHN B. MORRIS.

Witnesses:

L. M. JONES,
JOHN E. JONES.