F. CUMMINGS.

FENCE WIRE RELEASING DEVICE.

APPLICATION FILED AUG. 14, 1908.

923,494.

Patented June 1, 1909.

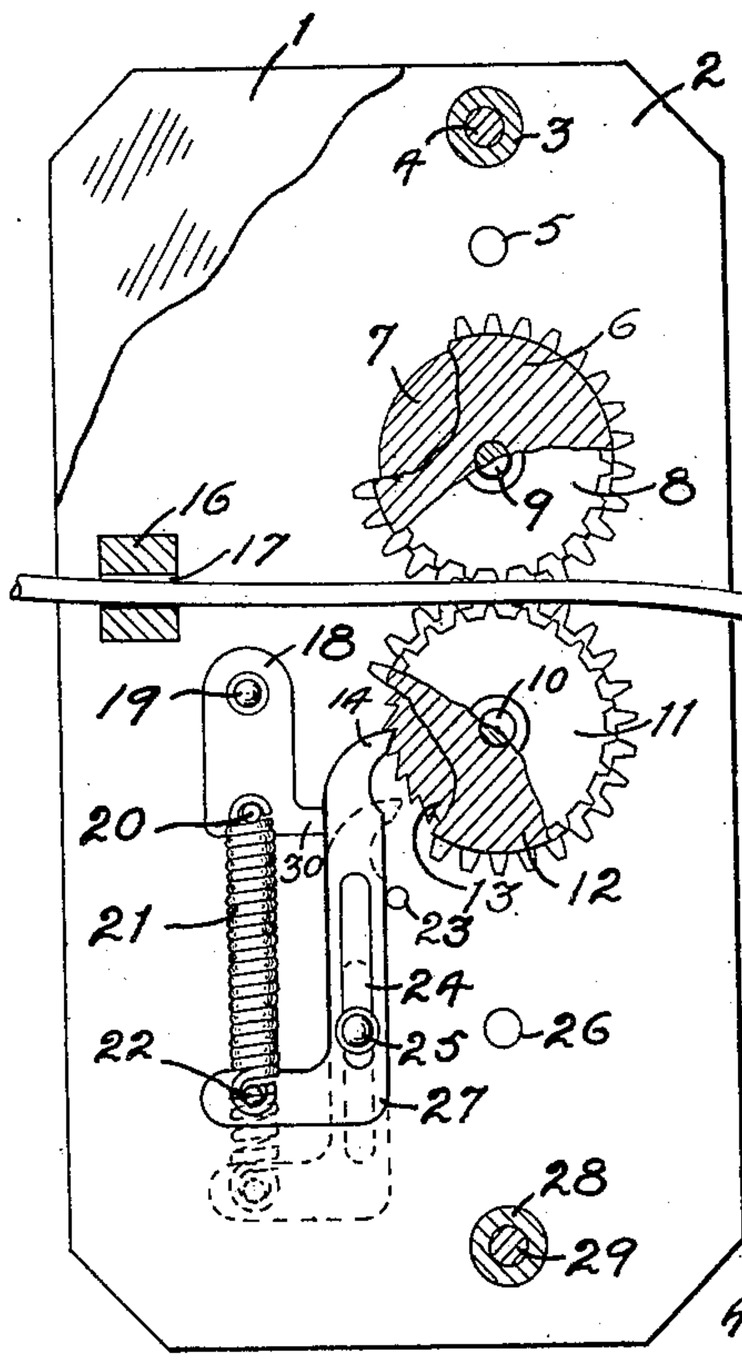


Fig. 1.

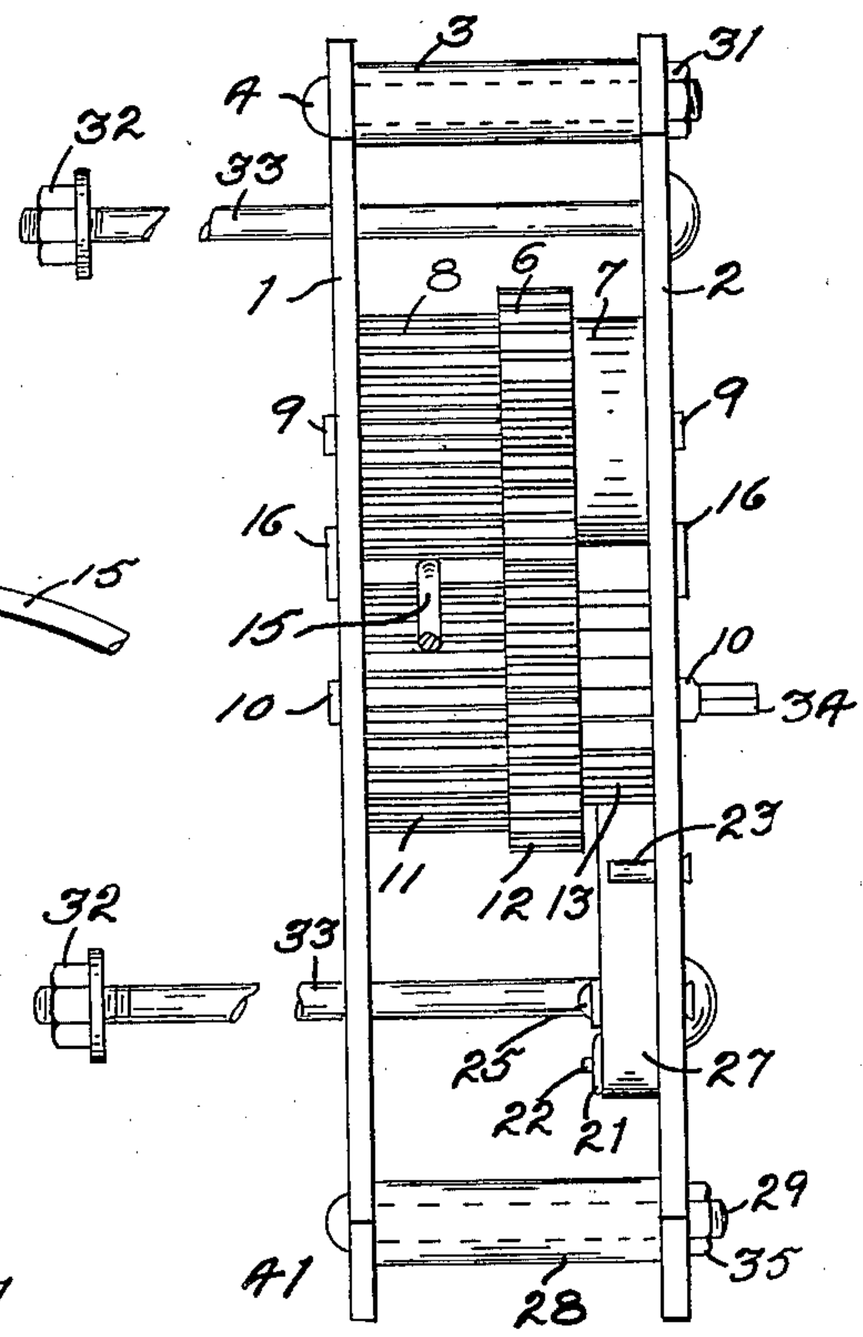
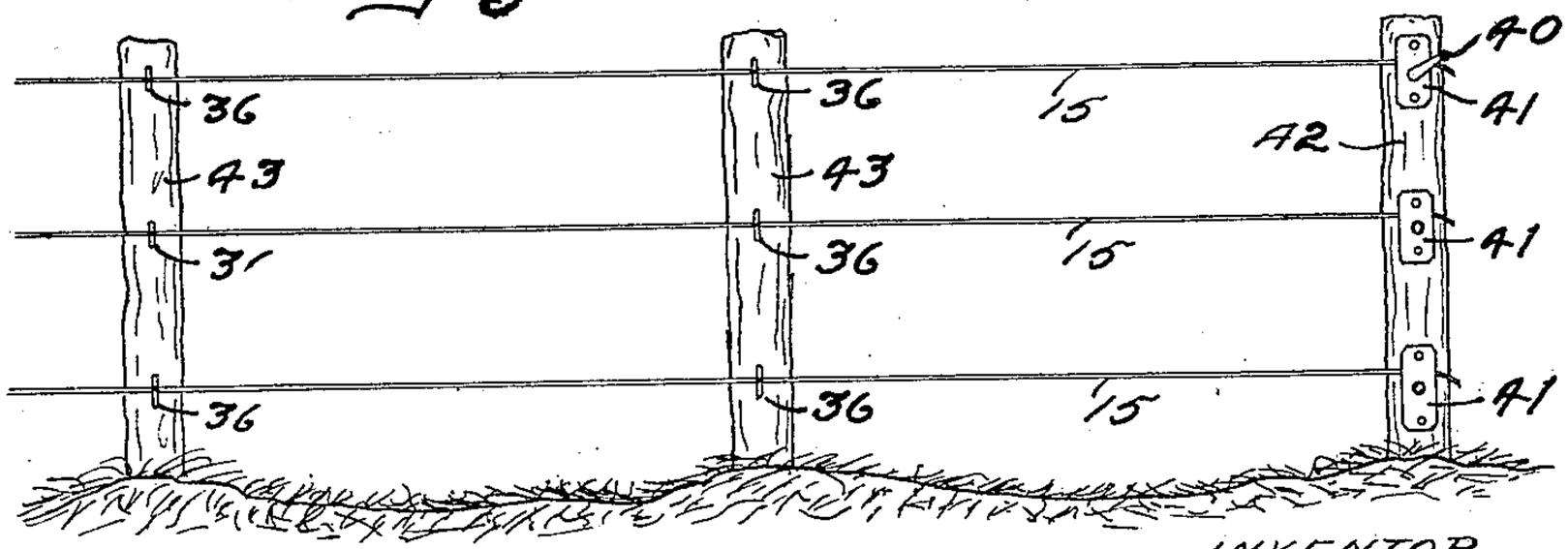


Fig. 2.

Fig. 3



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FRANK CUMMINGS, OF WATERLOO, IOWA.

FENCE-WIRE-RELEASING DEVICE.

No. 923,494. Specification of Letters Patent. Patented June 1, 1909.

Application filed August 14, 1908. Serial No. 448,501.

To all whom it may concern:

Be it known that I, FRANK CUMMINGS, a citizen of the United States of America, and a resident of Waterloo, Blackhawk county, Iowa, have invented certain new and useful Improvements in Fence-Wire-Releasing Devices, of which the following is a specification.

My invention relates to improvements in fence-wire releasing-devices, and the object of my improvement is to furnish means whereby fence-wire on fences on low ground subject to overflow of creeks may be released from the supporting posts when brought under great strain by high-water or floating objects, and thus prevent the pulling up and floating away of the posts. This object I have accomplished by the means which are hereinafter fully described and claimed, and which are illustrated in the accompanying drawings, in which:

Figure 1 is an elevation of one of said releasing-devices, parts of the frame and operative parts being broken away. Fig. 2 is an end elevation of the mechanism shown in Fig. 1. Fig. 3 is a view of a section of wire-fence, showing the method of mounting said releasing devices on its corner and intermediate posts.

Similar numbers refer to similar parts throughout the several views.

Land owners sustain considerable loss of time in replacing posts which are pulled out by the weight of high-water on low grounds or creek bottoms, as well as the loss of the posts themselves which become detached from the wires and floated off. It being desirable, therefore, to obviate this loss, I have supplied means whereby the wires, when put under more than a determined limit of tension, may be slipped from their securing means, and released from their supporting posts, thus preventing displacement of the posts.

The releasing-devices 41 are placed only on the corner- or end- posts of the fence, one of such devices for each wire, on one or both end-posts. The mechanism of the devices is mounted between two separated parallel plates 1 and 2, which are spaced apart by spacing-cylinders 3 and 28, through which and the plates are passed the bolts 4 and 29 respectively, secured by the nuts 31 and 35 respectively. Each device 41 is secured to a post by means of bolts 33 and nuts 32, the bolts being passed through openings 5 and 26 respectively in said plates, and then through the post 42 in line with one of the wire locations. The ends of two horizontal shafts 9 and 10 are placed in bearing-orifices in said plates, above each other. The lower shaft 10 has a squared shank protruding from one of the plates to receive a socket-wrench 40. Secured to each of the shafts 9 and 10, or preferably cast integral therewith, is a roller having parallel corrugations. The corrugations of the roller 8 are spaced away from the corrugations of the roller 11 to a distance about equal to the diameter of a fence wire 15 to be received between them. Such opposed corrugations are so relatively placed that one corrugation will grasp said wire at a point opposite the depression between the adjacent corrugations on the other roller, thus giving a secure grip on the wire to draw it between the rollers when the crank 40 is rotated in one direction. A slideway 16 is provided having an orifice 17 to permit the wire 15 to pass therethrough and be supported just anterior to said rollers. Integral with and abutting upon said rollers are gear-teeth 6 and 12 respectively and intermeshing. The shank 7 of the roller 8 next to the plate 2 is of diminished diameter and cylindrical, but the shank of the other roller 11 next the same plate is provided with the ratchet-teeth 13. A pawl 14 engages the teeth of the ratchet-wheel 13, and said pawl is integral with an L-shaped slide-bar 27, the latter having in its longer member a longitudinal slot 24 to receive a stud 25 projecting inward from said plate 2. Another stud 23 extending from said plate 2 is situated so as to be a stop for the slide-bar 27 preventing its movement sidewise toward the ratchet-wheel 13. A swing-plate 18 is hung pivotally on a stud 19, and has a short detent or lug 30 which contacts with the pawl 14 to yieldingly oppose its outward movement aided by the tension of the coiled spring 21 which is connected between it and the end of the shorter member of said slide-bar 27, by means of the studs 20 and 22 on said parts respectively.

The wires 15 are supported by staples or other securing means 36 on the intermediate post 43.

The devices 41 are also intended to permit the releasing of the ends of the wires 15, when a strain is put upon them of a certain amount. The grip of the corrugations on the rollers 8 and 11 is sufficient to hold the end of the wire 15 against ordinary strain, the

pawl 14 locking the rollers in one position. When the determined limit of strain is exceeded, the back pull of the wire 15 rotates said rollers and with them the ratchet-teeth 13. The push of the ratchet-tooth upon the pawl 14 is then sufficient to overcome the pull of the spring 21, which stretches out, while the slide-bar 27 simultaneously is pushed down as indicated by the dotted lines in Fig. 1. The ratchet-teeth then move by said pawl until the strain upon the wire 15 is diminished or the wire slips from between the rollers 8 and 11, and then the resiliency of the spring returns the pawl into operative engagement with said ratchet-teeth.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. A fence-wire releasing-device, comprising in combination, a support, a rotary engaging-device pivotally mounted on said support, said engaging-device having ratchet teeth on one end thereof, an abutment on said support opposed to and spaced away from said rotary engaging-device, a slidable pawl adapted to operatively engage the ratchet-teeth on said engaging-device, and resilient means connected between said support and said slidable pawl and adapted to yield to permit said pawl to move out of engagement with said ratchet-teeth when a certain tension is exercised upon said rotary engaging-means to rotate it in one direction.

2. A fence-wire releasing-device, comprising in combination, a support, a rotary engaging-device pivotally mounted on said support, said engaging device having ratchet teeth on one end thereof, a rotary abutment on said support opposed to and spaced away from said rotary engaging-device, a slidable pawl adapted to operatively engage the ratchet-teeth on said engaging-device, and resilient means connected between said support and said slidable pawl and adapted to yield to permit said pawl to move out of engagement with said ratchet-teeth when a certain tension is exercised upon said rotary engaging-means to rotate it in one direction.

3. A fence-wire releasing-device, comprising in combination, a support, a rotary engaging-device pivotally mounted on said support, said engaging-device having ratchet teeth on one end thereof, a rotary abutment on said support opposed to and spaced away from said rotary engaging-device, intermeshing gear-wheels secured to said rotary engaging-device and abutment, a slidable pawl adapted to operatively engage the ratchet-teeth on said engaging-device, and resilient means connected between said support and said slidable pawl and adapted to yield to permit said pawl to move out of engagement with said ratchet-teeth when a certain tension is exercised upon said rotary engaging-means to rotate it in one direction.

4. A fence-wire releasing-device, comprising in combination, a support, a rotary engaging-device pivotally mounted on said support, said engaging-device having ratchet teeth on one end thereof, a rotary abutment on said support opposed to and spaced away a desired distance from said rotary engaging-device, both said engaging-device and said abutment having engaging-projections distributed over their opposing surfaces, intermeshing gear-wheels secured to said rotary engaging-device and abutment, a slidable pawl adapted to operatively engage the ratchet-teeth on said engaging-device, and resilient means connected between said support and said slidable pawl and adapted to yield to permit said pawl to move out of engagement with said ratchet-teeth when a certain tension is exercised upon said rotary engaging-means to rotate it in one direction.

Signed at Waterloo, Iowa, this 27th day of July, 1908.

FRANK CUMMINGS.

Witnesses:
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