A. K. HAGENESS.

WIRE REELING APPARATUS.

APPLICATION FILED JULY 9, 1914.

1,144,840.

Patented June 29, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

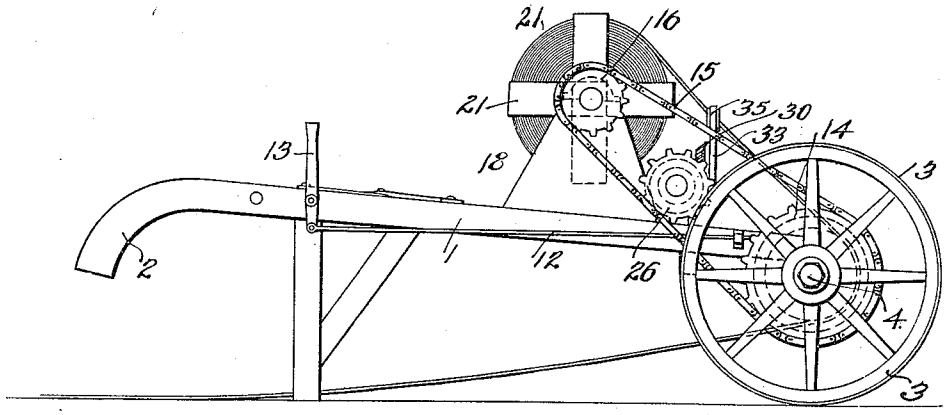


Fig. 2.

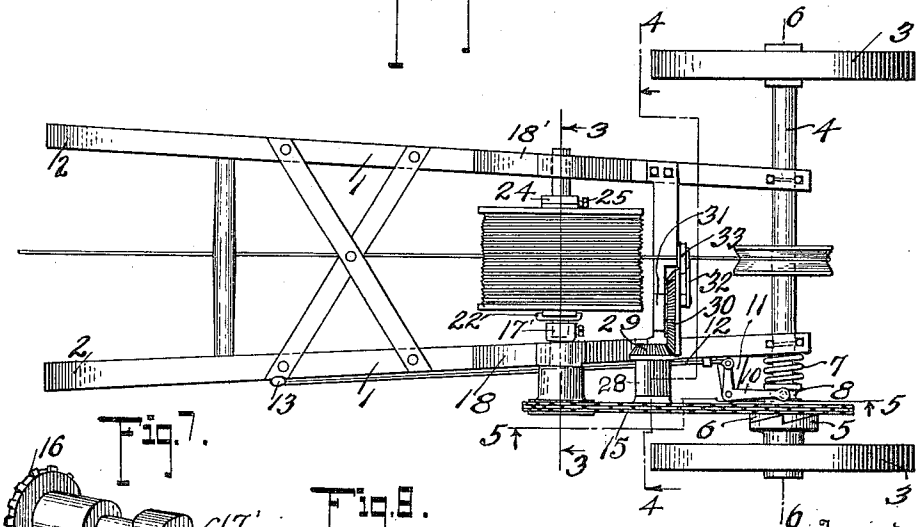
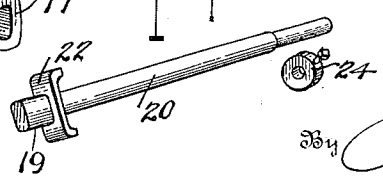


Fig. 7.

Fig. 8.



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2 SHEETS—SHEET 2.

Fig. 3.

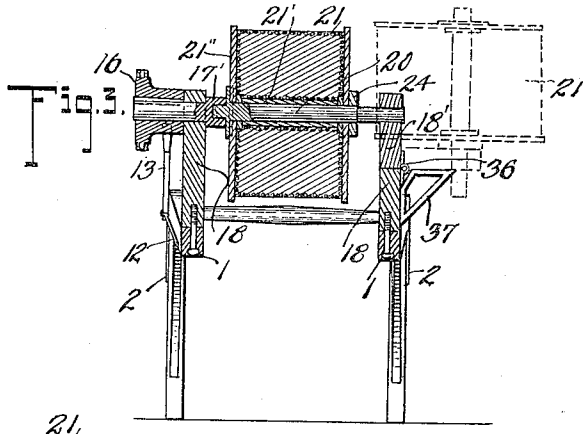


Fig. 4.

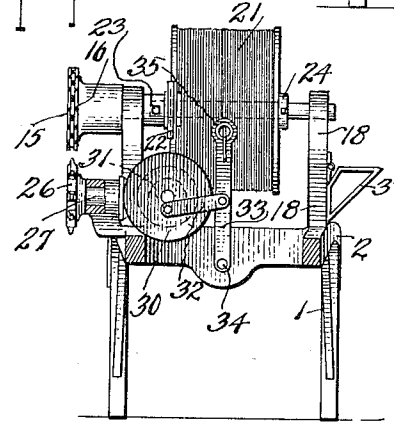


Fig. 5.

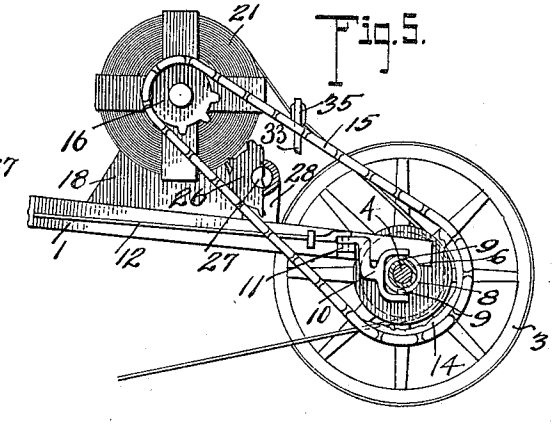
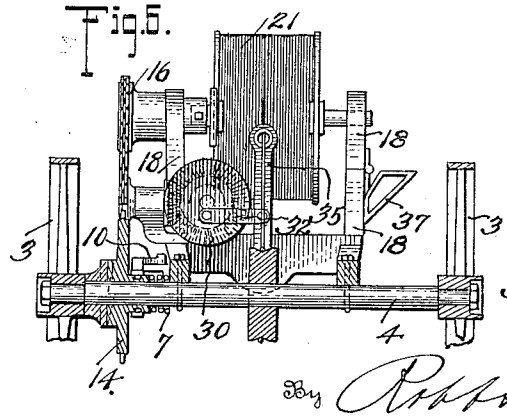


Fig. 6.



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WIRE-REELING APPARATUS.

1,144,840. Specification of Letters Patent. Patented June 29, 1915.

Application filed July 9, 1914. Serial No. 849,982.

To all whom it may concern:

Be it known that I, ALVIN K. HAGENESS, a citizen of the United States, residing at Eleva, in the county of Trempealeau and State of Wisconsin, have invented certain new and useful Improvements in Wire-Reeling Apparatus, of which the following is a specification.

This invention relates to improvements in wire reeling apparatus and particularly to such as are adapted for the distribution or collection of wire or other cable strands for use in building fences and other similar purposes.

The object in view is the provision of means for enabling easy and ready paying out of the wire from the reel combined with coöperating means for enabling adjustment of the reel for reeling in the wire when desired without any alteration of the reel carrying mechanism other than the reversal of the reel.

With this and further objects in view the invention comprises a carriage, a reel mounted thereon, and adjustable means sustaining the reel for enabling end for end reversal thereof.

The invention also comprises a carriage, a reel support, a shaft mounted on the support and shiftable relative thereto, a reel carried by the shaft, means for rotating the shaft, and means for detachably sustaining the shaft in operative position for enabling reversal of the reel when the shaft is detached.

The invention comprises certain other novel constructions, combinations, and arrangements of parts as will be hereinafter specified and claimed.

In the accompanying drawings: Figure 1 is a view in side elevation showing the features embodied in the present invention. Fig. 2 is a top plan view thereof. Figs. 3, 4, 5 and 6 are vertical sections taken respectively on the planes indicated by lines 3—3, 4—4, 5—5 and 6—6 of Fig. 2. Fig. 7 is a detail perspective view of the reel driving gear and stub shaft. Fig. 8 is a detail perspective view of the reel shaft detached, the stop gear being shown detached from the shaft.

Referring to the drawings by numerals, 1 indicates the frame having operating handles 2 and supporting wheels 3, 3, the latter being journaled on an axle 4, which axle is fixed in the frame 1.

To the hub of one of the wheels 3 is fixed a clutch member 5 disposed to coöperate with a clutch member 6, the latter clutch member being pressed by a spring 7 coiled about axle 4 and disposed between one of the sides of the frame 1 and the respective clutch member. The spring 7 presses the clutch member 6 in a direction for normally maintaining engagement thereof with clutch 5, and the clutch member 6 is formed with an annularly grooved sleeve 8 which is engaged by the terminal pins 9, of a bifurcated lever 10. The lever 10 is preferably of the bell crank type and pivoted at its angle to a bracket 11 fixed to the frame 1. The end of the lever 10 opposite the bifurcation is pivotally engaged by a link or rod 12 which is slidingly mounted in an eye fixed to the frame 1, the said rod extending to a point adjacent one of the handles 2 and there engages an operating lever 13 adapted for manual manipulation for moving the clutch member 6 laterally inwardly and thus compressing the spring 7 when releasing the engagement of clutch member 6 from clutch member 5.

Fixed to clutch member 6 is a sprocket wheel 14 engaged by a chain 15 which extends to and actuates the sprocket wheel 16, the latter being fixed to a stub shaft 17 journaled in a bracket 18 fixed to one side of frame 1. The inner extremity of shaft 17 which projects beyond the bearing of the shaft is formed into an elongated or oval socket 17′ adapted to receive a correspondingly shaped extension or tenon 19 on the shaft 20 of a reel 21. The reel 21 may be variously constructed and ordinarily consists merely of a central sleeve 21′ adapted to receive the shaft 20 and radial arms 21″ fixed at the ends of the sleeve. Fixed to the shaft 20 is a bracket plate 22 adapted to inclose one of the arms 21″ for insuring rotation of the reel 21 when the shaft is rotated it being obvious that the form of tenon 19 is such as to insure revolution of the shaft 20 with shaft 17, and to prevent any accidental disconnection of the tenon 19 from the socket 17′ a set screw 23 is preferably employed and is threaded through the material of the socket and into engagement with the tenon 19. The shaft 20 is de-

tachably journaled in a bracket 18′ mounted on the opposite side of the frame 1 from bracket 18, the shaft 20 being slidingly mounted in its journal bearing and being held against longitudinal movement by the engagement of set screw 23 with tenon 19. A collar 24 surrounds shaft 20 and is detachably secured in position by a set screw 25 for retaining the reel 21 against lateral play during operation and enabling its removal from the shaft.

A sprocket wheel 26 is disposed between the laps of chain 15 in position for having its teeth mesh with the links of the lower lap, and the said sprocket 26 is fixed to a stub shaft 27 journaled in a bracket 28 fixed to the frame 1. Fixed to the inner end of the shaft 27 is the miter gear 29 which meshes with a corresponding gear 30 fixed to a stub shaft journaled in a bracket 31 also carried by the frame 1. A wrist pin is connected to the front face of gear 30 and is engaged by a link 32 so that the link, during revolution of gear 30, is given a longitudinal, reciprocating movement and the end of the link 32 opposite that engaging the wrist pin engages a wire distributing lever 33 for swinging the same back and forth, the lever being pivoted at its lower end, as indicated at 34 to a part of the frame 1 so that the upper end of the lever may be caused to travel from one end of the reel 21 to the other end thereof under reciprocating action of link 32. The upper or free end of lever 33 is provided with an eye 35 through which the wire or other cable being delivered from or to the reel 21 is passed. The eye 35 is purposely made somewhat larger than the diameter of the wire so as to permit the free passage of splices or other enlargements. The bracket 18′ is divided partly of its height and has its sections connected by hinges 36, as best seen in Fig. 3, and a rigidly mounted bracket 37 is fixed to the frame 1 adjacent the hinged section of bracket 18′ and outstands laterally therefrom so as to receive and support the hinged portion of bracket 18′ when the same is swung to a horizontal position as indicated in dotted lines in Fig. 3.

In operation, and when it is desired to pay out wire, the reel is arranged as shown in Figs. 1 and 2, the operator grasping the handle 2 moves the carriage along over the ground which results in the rotation of the reel through the gears 14 and 21 and chain 15. Should the wire become slack and the operator wish to render it taut he needs only to press the lever 13 for pulling the clutch member 6 out of engagement with clutch member 5 whereupon the driving of the reel may discontinue and its further rotation accomplished only through the pull of the wire which will only follow a tightening up of the wire. Obviously the release of the clutch member may also be desirable under numerous other circumstances, as for instance, after a section of wire has been paid out the wire may be cut and the carriage moved to one side until the strand has been positioned on the supporting posts, and it is obvious that while moving the carriage to one side or in moving the carriage to or from the field it is desirable to have the clutch member 6 out of engagement with clutch member 5 so as to avoid feeding out wire.

When the section of wire has been fed out and for any cause it becomes desirable to reel it again or when a section of wire has been removed from a fence and the operator wishes to reel it in, he merely loosens set screw 23, moves the reel laterally until tenon 19 leaves socket 17′ and then swings the reel with its shaft vertically to the upright position seen in dotted lines in Fig. 3. He then lifts the reel bodily from the shaft, inverts the reel and replaces it in the inverted position; then swings the reel and its shaft downwardly to a position in alinement with shaft 17 and then moves the reel laterally until the tenon 19 enters socket 17. It is only necessary then to tighten the set screw 23 and the parts are in position for reeling in the wire and during the reeling-in operation the function of the distributing lever 33 becomes most valuable.

Having thus described my invention, what I claim as new is:

1. In a wire reeling machine, the combination with a carriage having a supporting wheel, of a reel journaled on said carriage, a shaft for supporting the reel and comprising a relatively movable section and a relatively stationary section, a hinged connection for the journal of the relatively movable shaft section to permit bodily swinging of the reel into inoperative position for removal of the shaft from said journal, and driving means connected to the relatively stationary section of the reel shaft with the wheel of the carriage.

2. In a wire reeling machine, the combination with a carriage having a supporting wheel, of a reel journaled on said carriage, a shaft for supporting the reel and comprising a relatively movable section and a relatively stationary section, a hinged connection for the journal of the relatively movable shaft section to permit bodily swinging of the reel into inoperative position for removal of the shaft from said journal, driving means connected to the relatively stationary section of the reel shaft with the wheel of the carriage, and means for supporting the hinged journal when the reel is swung into the inoperative position aforesaid.

3. In a wire reeling machine, the combination with a carriage having a supporting wheel, of a reel journaled in said carriage, a

shaft for supporting the reel and comprising a relatively movable section on which the reel is disposed and a relatively stationary section connected to the movable section, means for detachably connecting the movable section with the relatively stationary section, the former section being slidable in its journal to permit disconnection of the shaft sections from each other, a hinged connection for the journal of the movable shaft section permitting swinging of said reel into a position for being reversed, means for sustaining the reel in the position aforesaid for reversing purposes, and driving means for actuating said reel shaft.

4. In a wire reeling machine, the combination with a carriage having a supporting wheel, of brackets sustained by the carriage, a stub shaft journaled in one of the brackets, a reel shaft journaled in the other bracket and having a detachable connection with the stub shaft, a driving connection between the stub shaft and the supporting wheel, the reel shaft engaged bracket having the portion sustaining the reel shaft supported from the other portion of the bracket and hinged thereto, and means sustained by the carriage for supporting the hinged portion of the bracket in an offstanding position for enabling the reel shaft to be swung to an upright position and for being sustained in such position, the reel shaft being adapted to carry the reel.

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

ALVIN K. HAGENESS.

Witnesses:
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OLAF HAGENESS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."