No. 886,160. PATENTED APR. 28, 1908.

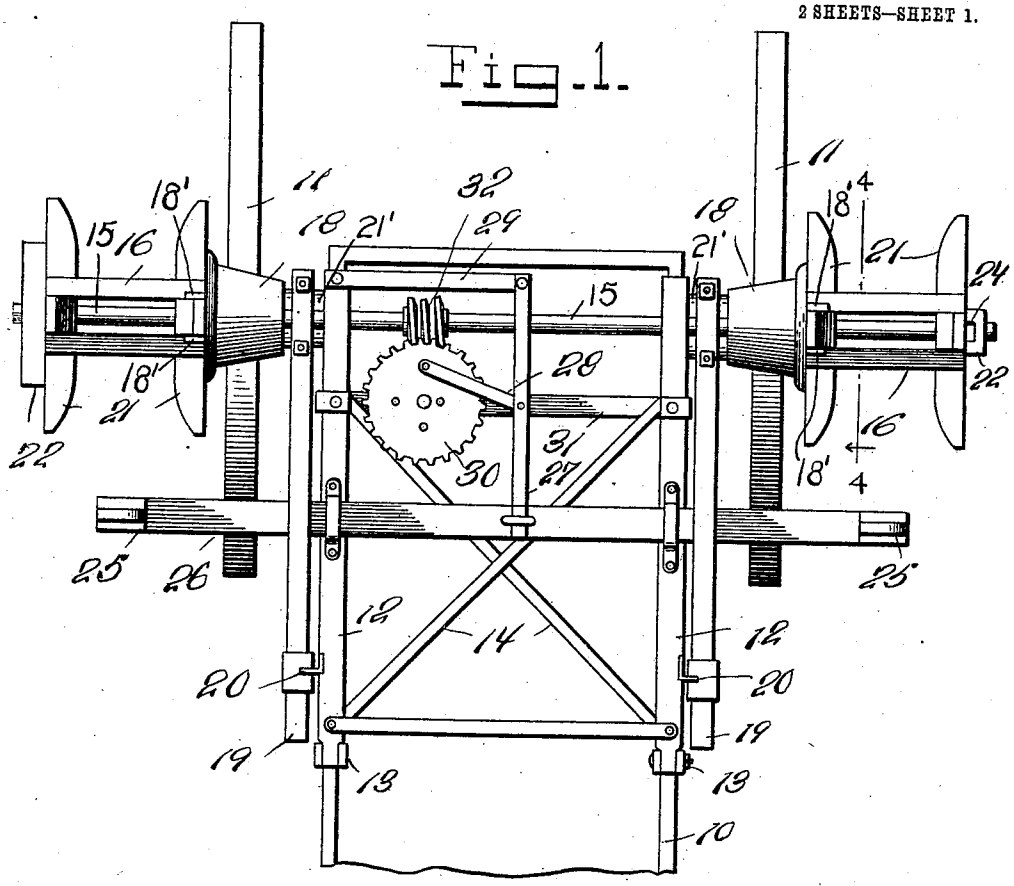
C. W. STARK.

WIRE REEL.

APPLICATION FILED JUNE 27, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



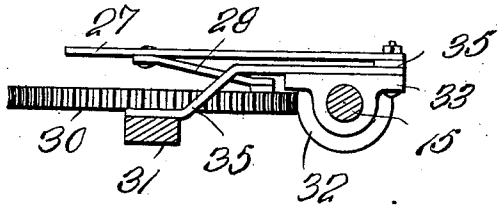


Fig. 3.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

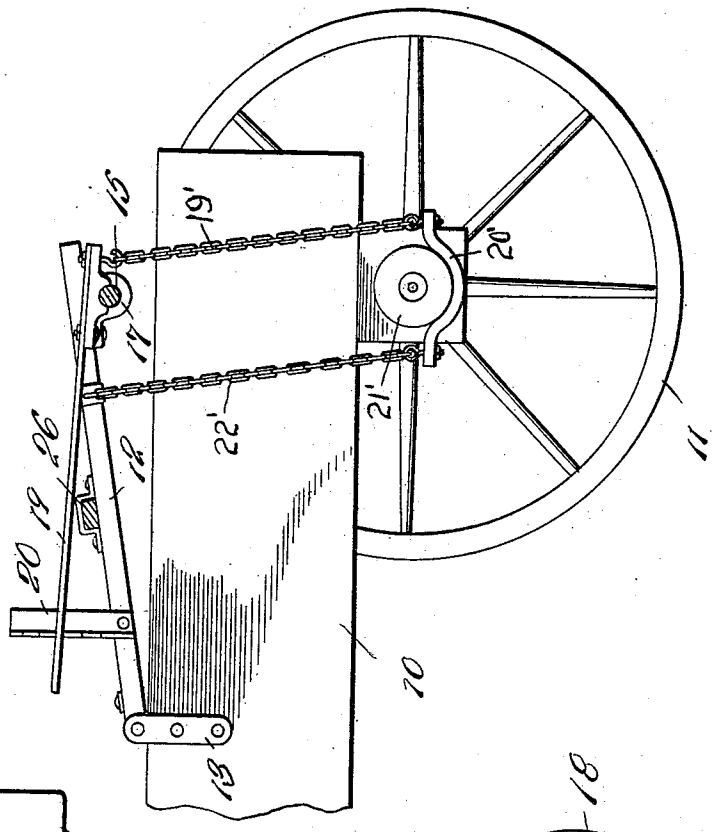


Fig. 4.

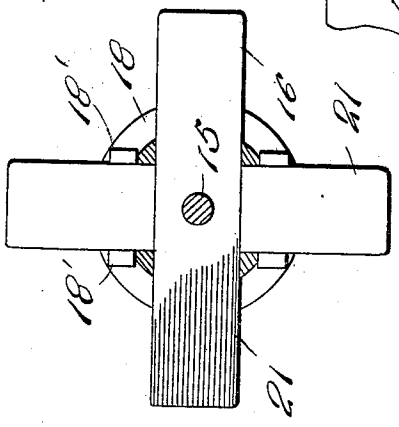
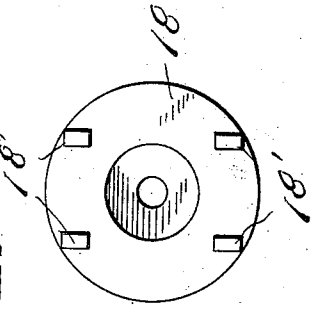


Fig. 5.



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CHARLIS W. STARK, OF MOUNTAIN LAKE, MINNESOTA.

WIRE-REEL.

No. 886,160. Specification of Letters Patent. Patented April 28, 1908.

Application filed June 27, 1906. Serial No 323,627.

To all whom it may concern:

Be it known that I, CHARLIS W. STARK, a citizen of the United States, residing at Mountain Lake, in the county of Cottonwood, State of Minnesota, have invented certain new and useful Improvements in Wire-Reels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This improvement has relation to wire reels and stretchers for use in the taking up of the wires of fences that are already made, and which it is proposed to take down; in stretching wires after paying out for new fences, and before stapling to the posts; in automatically guiding or controlling the wire in laying it up into coils on the spools; in the friction wheel for driving the spools from the wagon tire; and in general to the details of construction of the machine, as will appear.

It is the object of the invention to provide improvements upon the machine covered by Letters Patent, granted to me January 3, 1905, No. 779,245, and to provide new features of improvement, independent of the said patented machine.

The invention consists in novel means for automatically controlling the devices that lay the wires upon the spools in reeling it, or taking it up from fences that it is proposed to abandon.

The invention also consists of improved parts and combinations of parts relating to the stretching of wires to the spool-driving means and to other parts of the machine, as will fully and clearly appear from the description hereinafter given.

The improvements will first be described in detail, in view of the annexed drawings, forming a part of this specification, and then be pointed out with distinctness and particularity in the claims at the conclusion thereof.

In the drawings: Figure 1 is a top plan view of the entire machine, but not showing all of the front portion of the wagon that supports it. Fig. 2 is a sectional side elevation of certain parts of the machine. Fig. 3 is a sectional detail showing the worm-wheel, worm, and connections for traversing the wire-guides. Fig. 4 is a transverse section in the plane 4—4, Fig. 1. Fig. 5 is an elevation of the friction wheel alone.

Similar figures of reference designate similar parts or features, as the case may be, wherever they occur.

In the drawings, 10 designates the wagon-body; 11 the hind wheels of the wagon; 12 are the main frame bars that, at their forward ends are clamped to the sides of the wagon-bed as indicated at 13; and 14 are brace-bars connected with the main frame-bars to assist in strengthening and stiffening the frame.

15 designates the main or spool shaft provided on its outer end with the wire-carrying spools 16 and adapted to be rotated in bearings 17 supported from the frame-bars 12.

Between the spools and the bearings for the spool shaft 15 are flanged friction drive wheels 18 resting on the tires of the wagon wheels 11; and, to secure sufficient friction to drive the said wheels 18 and to keep them in contact at all times with the tires of the wagon wheels, the shaft is pressed downward by a pair of spring levers 19 each of which is secured at its rear end to the upper end of a chain 19′ that extends down to a yoke 20′ under a spool 21′ on the axle, another chain 22′ being connected at opposite ends to the other end of the yoke and to the adjacent frame bar 12, the said springs being adapted for engagement in one of the notches in the vertical standards 20 attached to the frame bars.

The friction drive wheels 18 are made of frusto-conical form and from the flange on its outer end there project four lugs 18′ each of which extends laterally between two of the cross-pieces 21 which serve as heads to the spools. These lugs 18′ are made sufficiently strong to drive the spools from the friction wheel without danger of breakage. By making the friction wheel of the form shown and described and omitting a flange from its inner end, (which, with the present improvements, are unnecessary,) the tire and other parts are kept free from dirt; and simple and thoroughly efficient means are provided for driving the spool from the wheel. An iron clamp 22 is arranged on the spool-shaft and engages the outer head of the spool, to which it is securely attached. An opening 24 is made longitudinally through the main bar of the clamp for a purpose to be presently stated.

When the wire is wound on the spools it is passed through the eyes or guides 25 of the traversing wire-guide bar 26, kept in place on the frame bars by suitable means and reciprocated to lay the wire evenly on the

spools by the oscillating lever 27, pivoted near its center on a pitman 28 and at its rear end on a bar 29, suitably supported. A toothed worm wheel 30 horizontally supported on a cross bar 31 extending between the main frame bars is engaged by a worm 32 fixed on the spool shaft, and as the said worm wheel is turned it shifts the wire guide bar with the results before stated. The rear end of the oscillating lever 27 and the inner end of the bar 29 are supported on a box 33 surrounding the spool shaft and braced by the strap 35 connected to cross bar 31.

The worm wheel is provided with four holes, each of a different distance from the axis of rotation of the wheel, with either of which holes the inner end of the pitman may be pivoted so as to adjust its throw and so vary the sweep of the wire-guides to wider or narrower extents in laying the wire on the spools and thus answer different circumstances in this respect.

In case it is desired to stretch the wire after unreeling for the building of a new fence, and before fastening permanently to the posts, a bar or length of strong pipe can be inserted in the opening 24 of the clamp 22 and the spool turned so as to wind up the wire thereon and stretch it as tight as the strength of the wire or parts will bear. This I regard as an important feature of the present improvement.

It is obvious that changes may be made in parts or features of the improvements, within the scope of mechanical skill without departing from the general nature or spirit of the invention.

What is claimed as the invention is:

1. In a machine of the class specified, the combination of a shaft, a wire spool mounted thereon, means for rotating said shaft and spool, an end-wise movable bar provided with an eye for guiding the wire to said spool, a worm secured to said shaft, a worm gear engaged by the worm and provided with a plurality of holes formed therein at varying distances from its axis of rotation, an oscillating lever pivoted at one end to said bar, and a pitman pivoted at one end in one of the holes in said worm wheel and at the other end to said lever, for actuating the latter, to effect the movement of said bar and lay the wire evenly upon said spool.

2. In a machine of the class described, in combination, a frame, an axle, ground wheels carried by the axle, beams constituting the sides of the frame, a shaft journaled at opposite ends in bearings secured to said beams, a drive wheel and a wire spool carried by said shaft, the drive wheel being in frictional engagement with the adjacent ground wheel, means carried by said drive wheel for engagement with said spool, to rotate the latter, a notched standard secured to each beam, spring levers each having one end engaged with the adjacent standard and the intermediate part bearing upon said shaft to hold said drive wheel against said ground wheel, a chain connecting each beam with the axle, a chain connecting the other end of each lever with the axle, means for guiding the wire to said spool, and means for reciprocating said guiding means, to lay the wire evenly upon said spool.

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

CHARLIS W. STARK.

Witnesses:
ABR. JAUZEN,
H. P. GOERTZ, Jr.