No. 754,336. PATENTED MAR. 8, 1904.

T. NIGHBERT.

WIRE REELING MACHINE.

APPLICATION FILED MAR. 27, 1903.

NO MODEL.

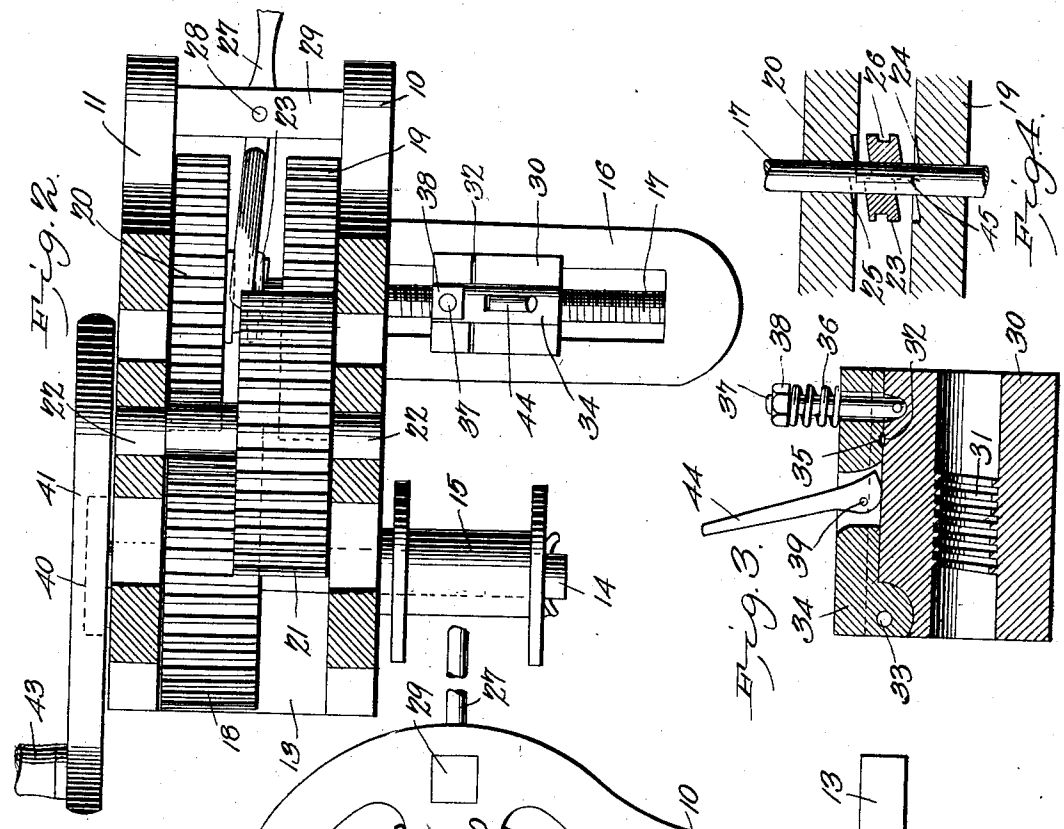

Fig. 2.

Fig. 4.

Fig. 3.

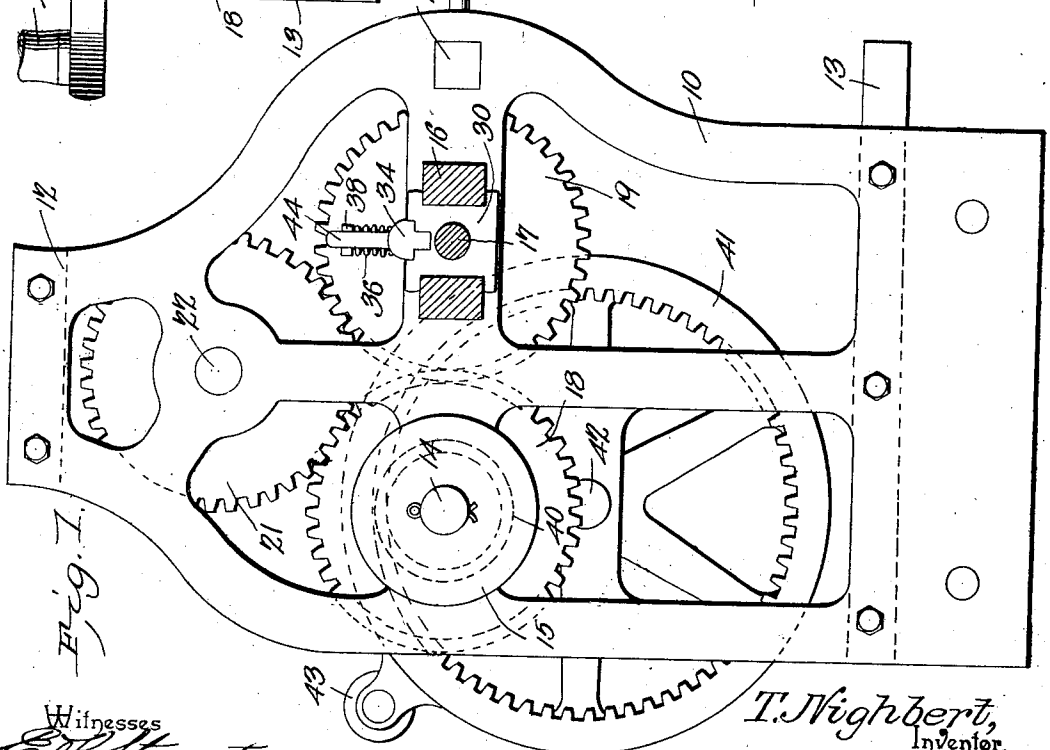

Fig. 1.

Witnesses
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No. 754,336. Patented March 8, 1904.

UNITED STATES PATENT OFFICE.

THOMAS NIGHBERT, OF ELROD, INDIANA.

WIRE-REELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 754,336, dated March 8, 1904.

Application filed March 27, 1903. Serial No. 149,891. (No model.)

To all whom it may concern:

Be it known that I, THOMAS NIGHBERT, a citizen of the United States, residing at Elrod, in the county of Ripley and State of Indiana, have invented a new and useful Wire-Reeling Machine, of which the following is a specification.

This invention relates to machines employed for winding wire upon reels or spools, more particularly the class of wire used in building fences and similar structures, and has for its object to produce a simply-constructed and easily-operated device of this character upon which the empty spools or reels may be placed and when charged with their supply of wire easily removed to make way for other empty spools; and the invention consists in certain novel features of construction, as hereinafter shown and described, and specified in the claims.

In the drawings illustrative of the invention, in which corresponding parts are denoted by like designating characters, Figure 1 is a side elevation partially in section. Fig. 2 is a plan view with the frame in section. Fig. 3 is an enlarged detached sectional detail view of the tension mechanism. Fig. 4 is a sectional detail, illustrating the construction of the double-acting clutch mechanism.

The improved device will be constructed in portable shape, so that it can be readily transported and set up where required, and consists in a supporting-frame formed of spaced side members 10 11, connected at the top by a transverse member 12 and near the bottom by a transverse member 13, the depending lower portions of the side members forming a means in coaction with the member 13 for securing the supporting-frame and the mechanism carried thereby upon a post or other support.

Mounted for rotation through the side members 10 11 is a main shaft 14, with one end extended beyond the member 10 and affording means for the support of the reel or spool, (indicated at 15,) the latter detachably connected to the shaft and partaking of its rotary motion. These spools or reels may be of any form; but the devices of this character generally employed for fence-wire are so nearly alike in size and construction that the shaft 14 can be readily adapted to support them without material alteration.

Extending from the side member 10 is a guide-frame 16, disposed parallel to the shaft 14 and spaced therefrom, as shown.

Mounted for rotation in the guide-frame 16 and extending also through the frame members 10 11 is a feed-shaft 17, the portion within the guide-frame 16 being threaded, as shown.

The shaft 14 is provided with a gear 18, and the shaft 17 is provided with spaced gears 19 20, running loosely thereon and the gear 20 intermeshing with the gear 18, as shown. The gear 18 is of "double width," so that an idler-gear 21, also of double width and mounted for rotation upon a transverse shaft 22, journaled in the side members 10 11, may be engaged therewith without interfering with the gear 20 and likewise engage the loose gear 19 without interference with the gear 18, as will be obvious by reference to Fig. 2. By this simple means the gears 19 20 are constantly revolved from the shaft 14, but in opposite directions.

The shaft 14 will preferably be provided with a pinion (indicated at 40) and adapted to be engaged by a larger drive-gear 41, mounted upon a stud 42 upon the frame member 11 and provided with an operating crank-handle 43, as shown, by which means the shaft 14 may be rapidly rotated.

Mounted slidably upon the shaft 17, but rotative therewith, by a spline or feather key 45, is a double-faced clutch 23, its clutch-faces adapted to be alternately engaged with opposing clutch-faces 24 25, respectively, upon the adjacent faces of the gears 19 20. The clutch member 23 is provided with an annular groove 26, in which a yoke-lever 27 operates, the lever pivoted at 28 in a transverse support 29 upon the main frame, as shown. By this arrangement it will be obvious that when the clutch member 23 is disposed centrally of the gears 19 20, as in Fig. 4, the latter will run freely without effect upon the shaft 17, but by turning the lever 27 to the right or left the gears 19 or 20, as the case may be, may be coupled to the shaft 17 and cause it to be correspondingly rotated to the right or left.

Slidably disposed upon the guide-frame 16

is a carrier 30, having an internally-threaded portion 31 engaging the threaded portion of the shaft 17, so that as the shaft is alternately rotated by means of the double-acting clutch-and-gear mechanism above described the carrier will be correspondingly moved back and forth along the guide-frame. The carrier 30 is provided with a guide-groove 32, through which the wire leads to the reel or spool 15, and movably connected at 33 to the carrier is a tension-bar 34, having a shallow groove 35, registering with the groove 32 and held yieldably in position by a tension-spring 36, supported upon a bolt or stud 37 and adjustable to increase or decrease its force by a nut 38, as shown. By this simple means the tension on the wire may be readily controlled, as will be obvious.

The tension-bar 34 is provided with a cam-lever 44, pivoted at 39 to the carrier and operating to elevate the tension-bar when the wire is to be inserted. By this arrangement when the wire is to be reeled the device is attached to a suitable support and the empty spool attached to the end of the shaft 14, which projects from one side of the supporting-frame, and the end of the wire passed beneath the tension-bar and connected to the reel or spool. The operator then sets the clutch member 23 to the right or left by the lever 27 and rotates the crank-handle 43 with one hand and holds the lever 27 with the other and watches the action of the wire upon the reel, which is carried longitudinally of the reel by the moving carrier 30. When the wire reaches the end of the reel, the clutch 23 will be reversed, which will start the carrier in the opposite direction, and so on until the winding is complete. By this means the wire will be uniformly fed to the reel or spool and prevented from "bunching" thereon or becoming entangled or otherwise misplaced.

The machine is easily operated and set up, the filled spools easily removed and replaced by empty ones, and without detaching any parts, or disturbing or dismembering any of the operating parts. The projecting end of the shaft 14 and guide-frame 16 enable the reels or spools to be readily attached and detached and the wire threaded to the reel without trouble or annoyance to the operator.

The frame 10 11 may be of any size or of any suitable material, but will preferably be of iron or steel of suitable strength.

Having thus described my invention, what I claim is—

A wire-reeling machine consisting of a supporting-frame, a reel-support and a guide-frame projecting from said supporting-frame at one side, said guide-frame being spaced from said reel-support, a carrier mounted for forward and backward movements upon said guide-frame, and having a wire-guiding groove, a spring-actuated tension-arm movably supported upon said carrier transversely of said guide-groove, and a cam-lever movably connected to said tension-arm and operative to release said tension-arm, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS NIGHBERT.

Witnesses:

JOSEPH H. HEHE,

WALTER H. JOHNSON.