

J. & G. M. WELTY & C. BRINSER.

LINE WIRE REEL.

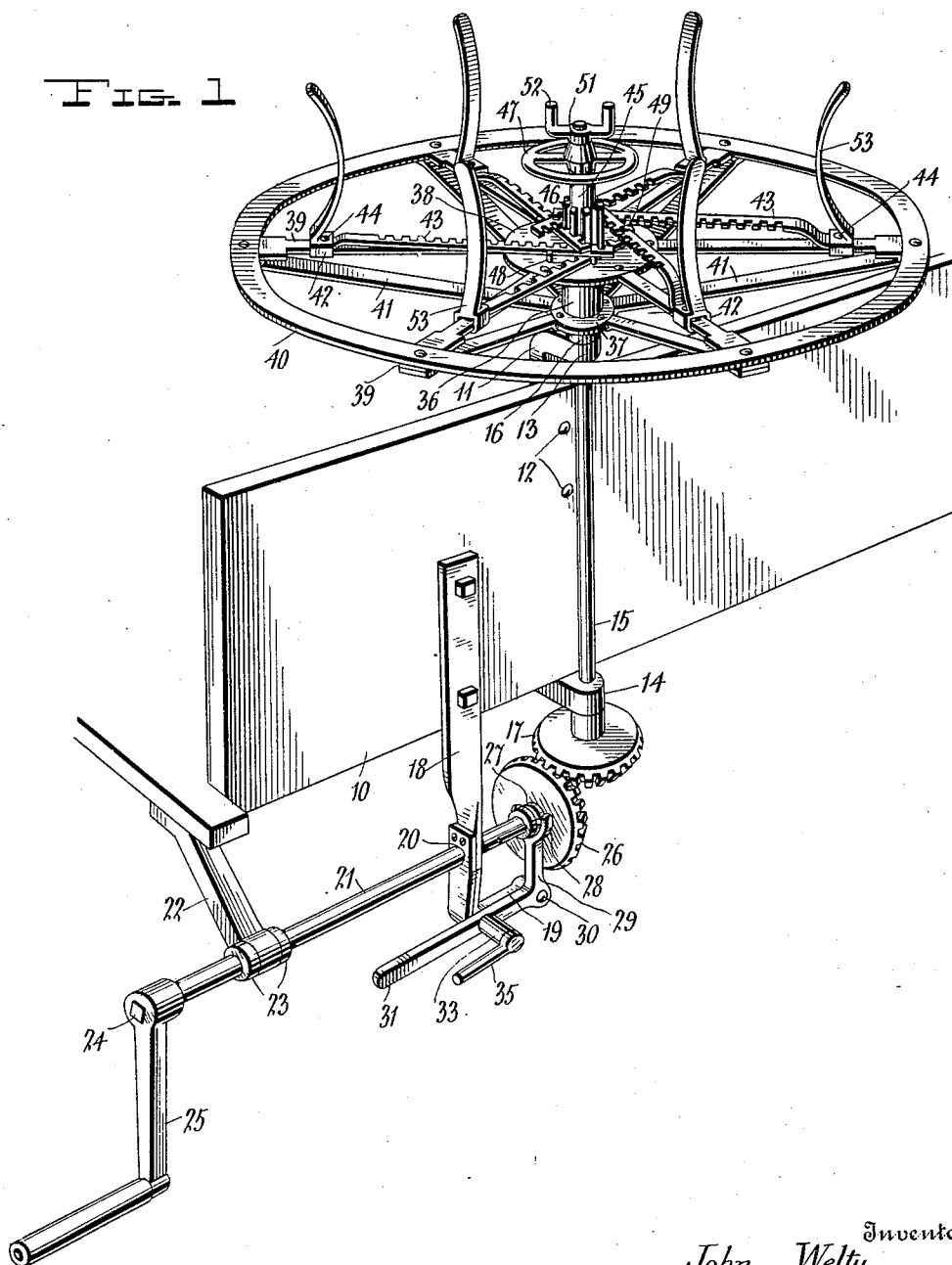
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1,017,936.

Patented Feb. 20, 1912.

2 SHEETS—SHEET 1.

FIG. 1



Witnesses
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2 SHEETS—SHEET 2.

FIG. 2

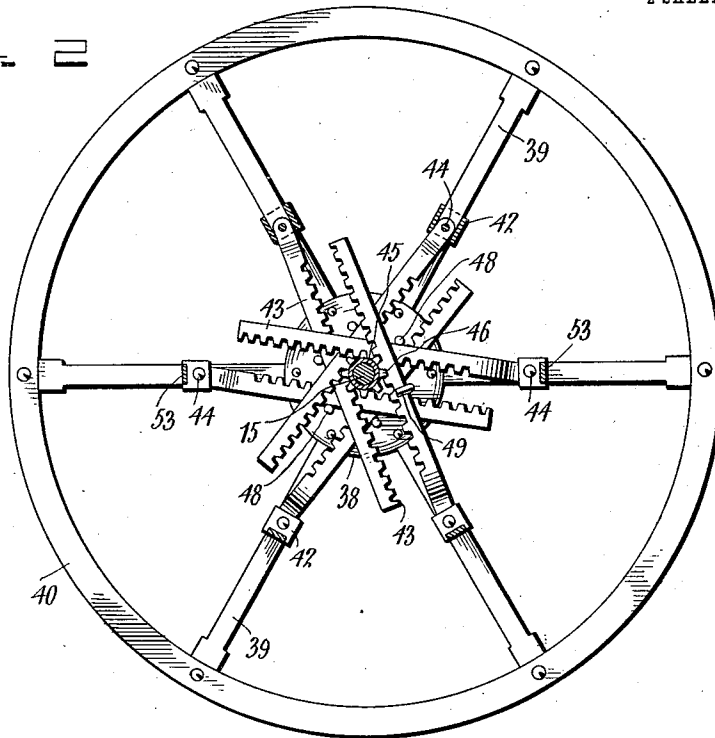


FIG. 3

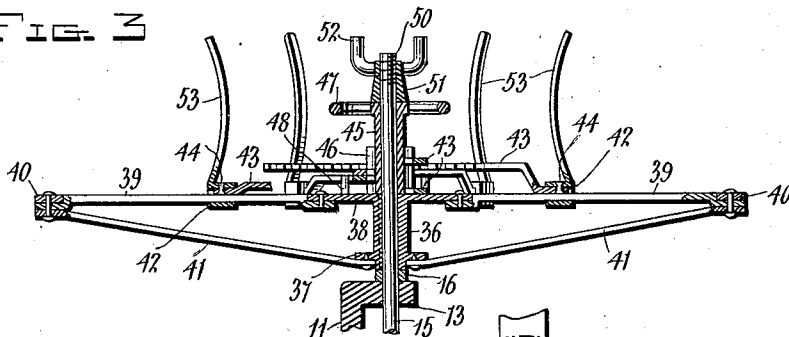
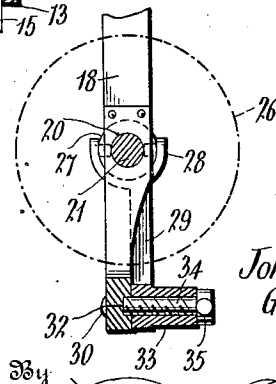


FIG. 4



Witnesses

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UNITED STATES PATENT OFFICE.

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LINE-WIRE REEL.

1,017,936.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed March 31, 1910. Serial No. 552,636.

To all whom it may concern:

Be it known that we, JOHN WELTY, GEORGE M. WELTY, and CLINTON BRINSER, citizens of the United States, residing at Seattle, in the county of King, State of Washington, have invented certain new and useful Improvements in Line-Wire Reels; and we 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 invention relates to reels such as are used for the purpose of erecting and taking down telephone, telegraph and other wires of like character.

One object of the invention is to provide an improved general construction of reel adapted to be secured to a wagon in such manner that the reel will be out of the way of the contents of the wagon, said reel being adapted either for winding wire or for paying out wire as it is being erected.

A second object of the invention is to provide an improved construction of reel which is equipped with a novel device for adjusting the reel to different sized coils of wire, which reel may be either mounted on a wagon body or on a stand.

A third object of the invention is to improve the manner in which and the mechanism by means of which the arms of reels of this character are adjusted.

With the above and other objects in view, the invention consists in general of a novel construction of reel provided with an improved arm adjusting mechanism.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claims.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and Figure 1 is a perspective view of a reel constructed in accordance with this invention and applied to a wagon. Fig. 2 is a plan view of the wire holding portion of the device, the view being partly in section in order to show the manner in which the adjusting mechanism is arranged. Fig. 3 is a transverse sectional view through the wire holding portion of the reel. Fig. 4 is a sectional view showing certain locking mechanism used in connection with the reel.

In the present showing of this reel the same has been illustrated as applied to the rear end of a wagon body and it will be noted that the reel is so constructed that it is supported above one of the wagon sides so that it is entirely out of the way of the contents of said wagon body.

The numeral 10 indicates a portion of the body of such a wagon as is ordinarily employed by telegraph and telephone linemen and secured to one of the sides of this body adjacent its rear end is an inverted L-shaped bracket 11, the stem of the L being held to the side by means of bolts 12 while the foot of the L extends over the edge of the side as at 13. At the end of the foot 13 there is provided a suitable bearing for purposes hereinafter to be described. Beneath the wagon body is a bracket 14 likewise provided with a bearing and through the bearings in the brackets 11 and 14 extends a vertical shaft 15 upon the upper end of which is a collar 16 for the purpose of preventing the shaft moving downward through said brackets. To the lower end of the shaft 15 and below the bracket 14 is secured a bevel gear 17. Secured to the outside of the side of the wagon body is a bracket 18 provided with an extension 19. This bracket 18 has a bearing formed therein as at 20 and through this bearing extends a shaft 21 which is horizontally disposed and which projects behind the wagon, being supported adjacent its rear end by a bracket 22 provided with a bearing through which said shaft passes. On each side of the bracket 22 the shaft 21 is provided with collars 23 which prevent sliding movement of the shaft in a longitudinal direction. At the rear end of the shaft 21 there is provided a polygonal portion 24 adapted to receive a handled crank 25 whereby the shaft may be rotated.

Upon the forward end of the shaft 21 is splined a bevel gear 26 which is so arranged as to be adapted to mesh with the gear 17. This bevel gear 26 is provided with a grooved boss 27 which receives the fork arms 28 of a bell crank shipper lever 29. This shipper lever 29 is pivoted at its angle to the extension 19 of the bracket 18 as indicated at 30 and extends rearwardly behind said bracket 18, being there provided with a handle 31. In the bracket 18 is provided a recess 32 and on the bell crank shipper lever is provided a boss 33 having an opening

formed therethrough adapted to register with the recess 32 and provided with an abruptly pitched thread. In this opening of the boss is held a screw 34 threaded to fit said boss and on the outer end of this screw is fitted a handle 35.

By means of the structure just described the gear 26 may be moved into or out of mesh with the gear 17. When the gear 26 is in mesh with the gear 17 the handle 35 is so rotated as to force the end of the screw into the recess 32 and the two gears are thus held locked in mesh. If it is desired to release the gear 26 from the gear 17 the handle 35 is rotated in the proper direction to withdraw the end of the screw 34 from the recess 32. The handle 31 is then depressed and this causes the gear 26 to be moved rearwardly along the shaft 21 and to be disengaged from the gear 17.

Considering now the specific structure of the reel itself. Above the collar 16 is a hub 36 which is fixedly secured upon the shaft 15. At the lower end this hub is provided with a flange 37 and at the upper end with a flange 38. Secured to the flange 38 is a series of radial bars 39 to the outer ends of which is secured a ring 40, thus forming a structure of wheel-like character. Secured to the flange 37 are other radial bars 41 and, while the bars 39 all lie in the same plane, the bars 41 all incline upwardly so as to constitute braces and these bars 41 have their outer ends attached to the outer ends of the bars 39. On each of the bars 39 is a sliding member 42 and these members are of box-shape and the upper side of each lies in spaced relation to its bar 39 so that the outer ends of rack bars 43 may lie in the space thus formed and be pivotally connected to the sliding members by pins 44. On the shaft 15 above the hub 36 is a freely rotatable sleeve 45 on the lower end of which is formed a gear 46 while on the upper end of the sleeve 45 is a hand wheel 47. The inner ends of the rack bars 43 are displaced vertically with respect to each other so that these rack bars lie one on top of the other with their teeth engaging with the gear 46. In order to hold these rack bars in engagement with the gear 46 the flange 38 has projecting therefrom a series of pins 48 one of which is provided with a head 49 locking over its rack bar 43. The stems of all of these pins are so positioned that they rest against the backs of the rack bars 43 and form guides for said rack bars. From an inspection of Fig. 2 it will be seen that the inner ends of these rack bars are superposed, the one on the other, and that the head 49 locks over the uppermost of the rack bars so that all of these bars are held to slide on each other and are prevented by the action of the head 49 and the rack bar with which it engages from rising up from the flange 38.

Now, it will be plain that as the hand wheel 47 is rotated the sliding members 44 will be caused to move in and out along their respective bars 39 so that the positions of these members may be adjusted with reference to the axis of the reel. In order to hold these members in adjusted position the upper end of the shaft 15 is threaded as at 50 and on this threaded end is held a locking sleeve or nut 51 provided with a hand grip 52. By this means, after the positions of the sliding members have been adjusted by rotating the hand wheel 47, the sliding members may be locked in such adjusted positions by screwing down upon the nut 51. Each of the sliding members 42 has projecting up therefrom an inwardly curved arm 53 adapted to lie inside of the coil of wire or to have wire coiled up thereon.

In the operation of the device, during the process of paying out wire the gears 26 and 17 are disconnected as previously described. The coil of wire is then laid on the arms 39 and the lock nut 51 loosened. The arms 53 are then adjusted to fit the inside of said coil wire by rotating the hand wheel 47 in the proper direction. These arms having been adjusted the nut 51 is employed to lock them in such adjusted position. The wagon may then be driven along and the wire allowed to run off the coil as required. If it be desired to take down a wire and wind it up the arms 53 are adjusted to the size of coil which it is desired to form. The gears 26 and 17 are brought into mesh and the end of the wire brought to the reel. The wagon is then driven along and as fast as the wire is cut loose from the poles the crank 25 is rotated with the result that the wire is coiled up on the reel in a coil of the desired size. When sufficient wire has been coiled up the arms 53 are moved inward by releasing the lock nut and manipulating the hand wheel 47 and this coil removed. The operation may then be repeated as many times as is necessary to take down the required length of wire. There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that minor changes may be made in the form and construction of this invention without departing from the material principles thereof. It is not therefore desired to confine the invention to the exact form herein shown and described, but it is wished to include all such as properly come within the scope of the appended claims.

Having thus described the invention, what is claimed as new, is:--

1. In a reel, a vertical shaft, spaced brackets provided with bearings supporting said shafts, a hub fixed on said shaft above the upper bar, a flange at the upper end of said hub, a second flange at the lower end of said

hub, radial arms secured at their inner ends to the upper flange and lying in the same plane, a ring connecting the outer ends of said radial arms, other arms connecting the 5 outer ends of the first mentioned arms with the flange at the lower end of the hub, and strand-receiving members adjustably mounted on the first mentioned arms.

2. In a reel, a vertical shaft, spaced brackets provided with bearings supporting said 10 shafts, a hub fixed on said shaft above the upper bar, a flange at the upper end of said hub, a second flange at the lower end of said hub, radial arms secured at their inner 15 ends to the upper flange and lying in the same plane, a ring connecting the outer ends of said radial arms, other arms connecting the outer ends of the first mentioned arms with the flange at the lower end of the hub, 20 strand receiving members adjustably mounted on the first mentioned arms, and means for locking said reel carrying arms in adjusted position.

3. In a reel, a vertical shaft, spaced brackets provided with bearings supporting said 25 shafts, a hub fixed on said shaft above the

upper bar, a flange at the upper end of said hub, a second flange at the lower end of said hub, radial arms secured at their inner ends to the upper flange and lying in the same 30 plane, a ring connecting the outer ends of said radial arms, other arms connecting the outer ends of the first mentioned arms with the flange at the lower end of the hub, a sliding member on each of the first men- 35 tioned arms, a sleeve on said shaft above said hub and freely revoluble on the shaft, a gear formed on the lower part of the sleeve, a rack bar connected to each of the sliding members and meshing with said gear, 40 strand-receiving members on said sliding members, and means connected to the sleeve for adjusting the position of the reel carrying arms.

In testimony whereof we affix our signatures, in presence of two witnesses. 45

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