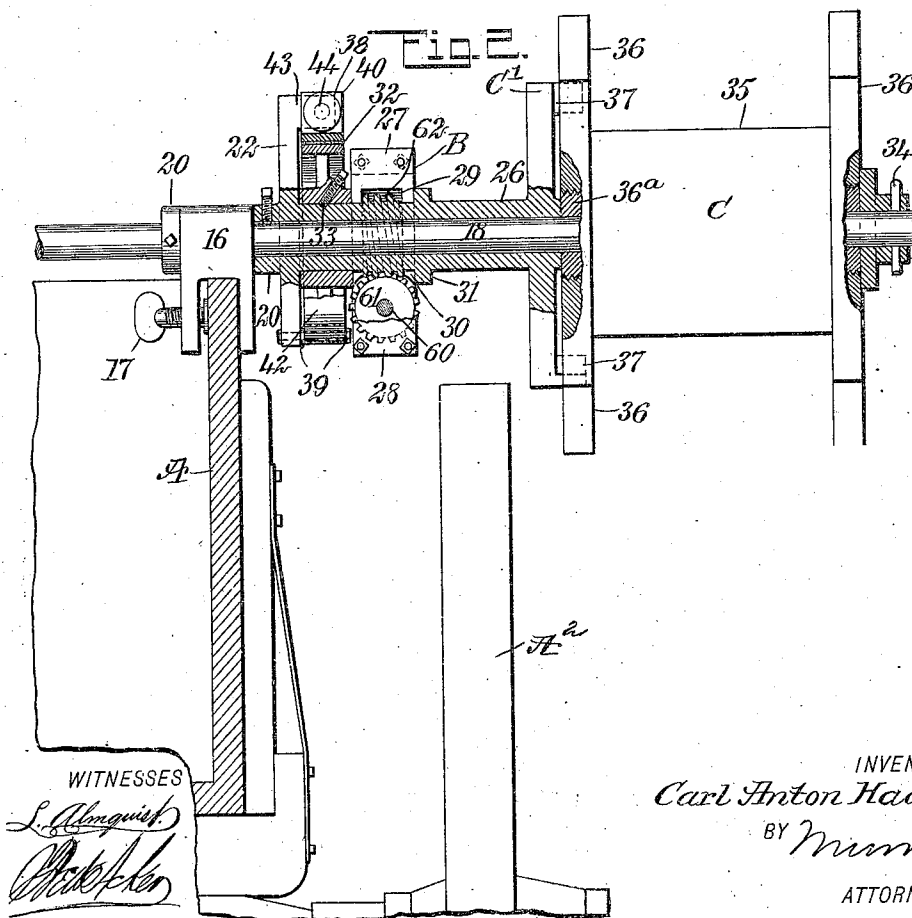
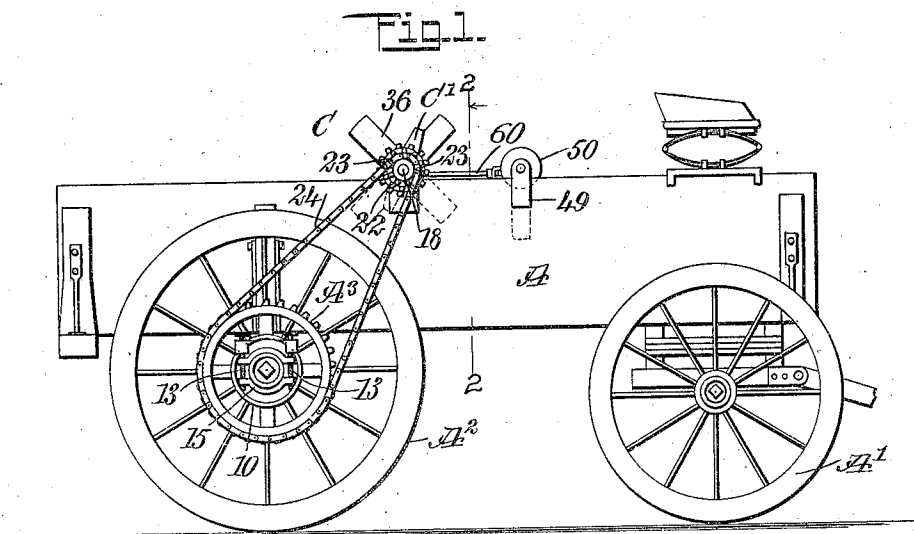


No. 847,178.

PATENTED MAR. 12, 1907.

C. A. HADLAND.
REELING DEVICE.
APPLICATION FILED JULY 14, 1906.

3 SHEETS—SHEET 1.



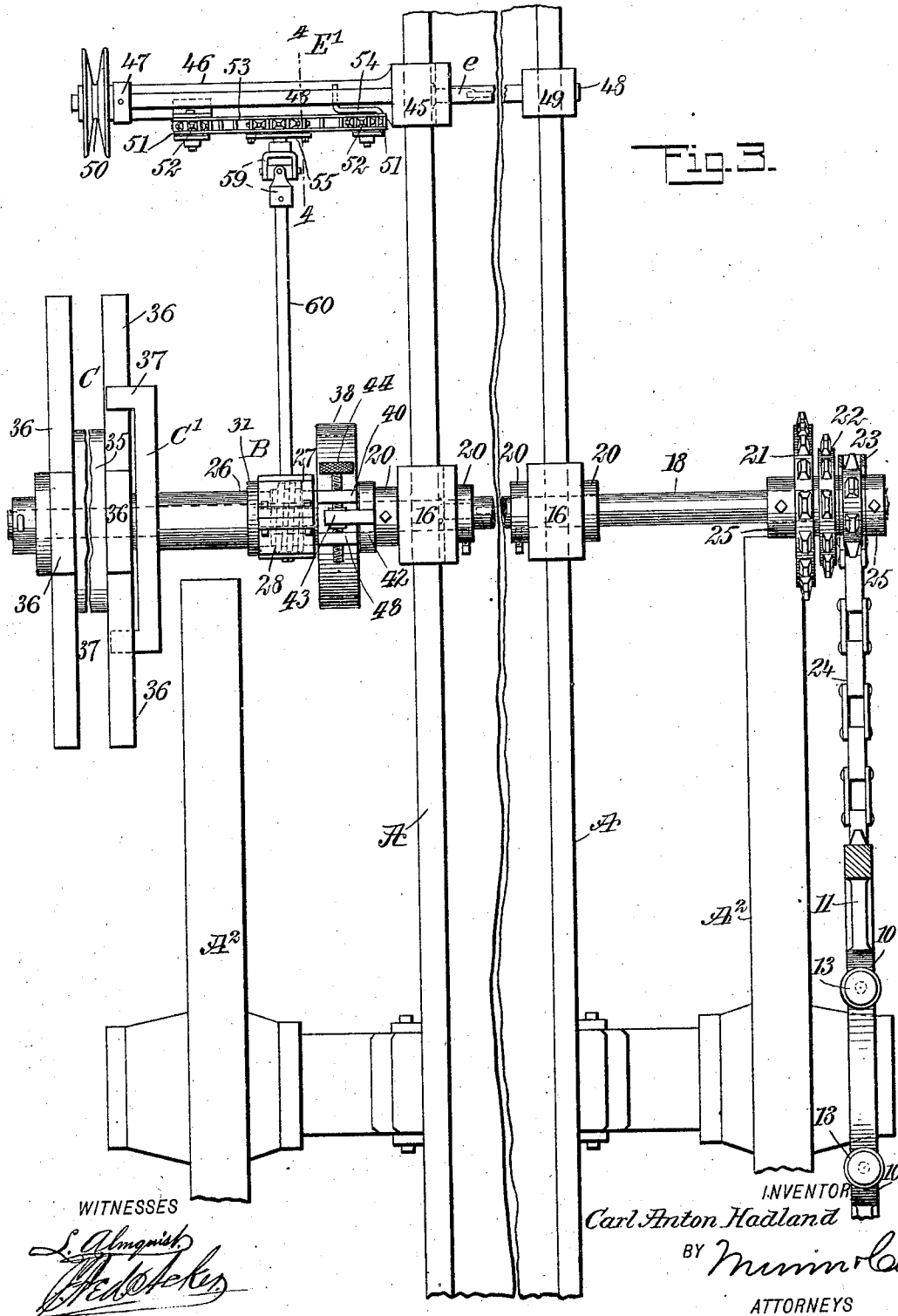
No. 847,178.

PATENTED MAR. 12, 1907.

C. A. HADLAND.
REELING DEVICE.

APPLICATION FILED JULY 14, 1906.

3 SHEETS—SHEET 2.



WITNESSES

S. Almqvist
H. Peters

INVENTOR

Carl Anton Hadland

BY

Munn & Co

ATTORNEYS

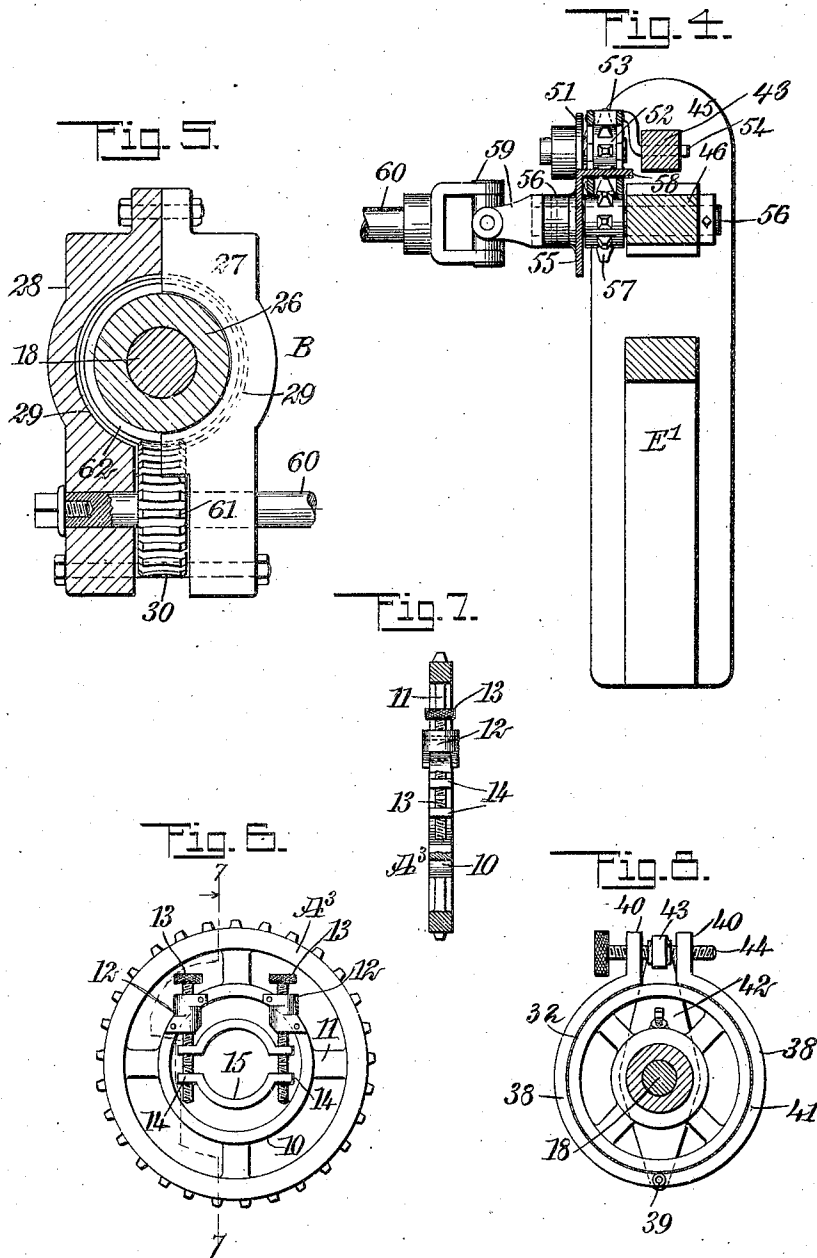
No. 847,178.

PATENTED MAR. 12, 1907.

C. A. HADLAND.
REELING DEVICE.

APPLICATION FILED JULY 14, 1906.

3 SHEETS—SHEET 3.



WITNESSES
S. A. Larquist.
C. Hadland.

INVENTOR
Carl Anton Hadland
BY *Mumford*
ATTORNEYS

UNITED STATES PATENT OFFICE.

CARL ANTON HADLAND, OF BENNINGTON, MINNESOTA.

REELING DEVICE.

No. 847,178.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed July 14, 1906. Serial No. 326,263.

To all whom it may concern:

Be it known that I, CARL ANTON HADLAND, a citizen of the United States, and a resident of Bennington, in the county of Mower and State of Minnesota, have invented a new and Improved Reeling Device, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide an improvement upon the reeling device for which Letters Patent were granted to me July 4, 1905, Serial No. 794,008, the improvement being such as to adapt the attachment for use on all kinds of ground, since an especial chain-drive is adapted thereto, whereas in the construction set forth in the said patent a friction-drive is employed, and in very tenacious soil such a drive is not reliable.

A further purpose of the invention is to construct a reeling device adapted to the chain-drive that can be quickly and conveniently applied to the body of any wagon and which will be simple, durable, and economic.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a wagon and the improved reeling device applied thereto. Fig. 2 is an enlarged transverse vertical section taken practically on the line 2 2 of Fig. 1. Fig. 3 is an enlarged plan view of a portion of a wagon-body and the improved device. Fig. 4 is an enlarged vertical section taken practically on the line 4 4 of Fig. 3. Fig. 5 is a section through the main shaft and the bearing for the rear end of the shaft employed for operating a guide-wheel for the wire. Fig. 6 is a side view of the driving-gear adapted for attachment to the hub of a supporting-wheel for the wagon. Fig. 7 is a section taken practically on the line 7 7 of Fig. 6, and Fig. 8 is a section through a drive-shaft and sleeve thereon and a side elevation of the pulley on said sleeve and the clutch therefor carried by the shaft.

A represents the body of a wagon to which the improved device is applied, which wagon-body is provided with the customary forward wheels A' and rear wheels A². A driving-

sprocket A³ is provided for the right-hand rear wheel A², and said driving-sprocket A³ is of peculiar construction and is removably secured to the outer reduced portion of the hub of the wheel to which application is to be made. Said driving-sprocket A³ is shown in detail in Figs. 6 and 7, being provided with an inner ring 10, held concentric to its toothed surface by the spokes 11, and upon the ring 10, straddling the same, opposing guide-bearings 12 are secured in any approved manner. The guide-bearings are interiorly threaded to receive adjusting-screws 13, which adjusting-screws are provided with right and left hand threads. The adjusting-screws 13 likewise pass through opposing flanges 14 of a ring-clip 15, made in two members, as is particularly shown in Fig. 6, the flanges 14 having correspondingly threaded openings to the threaded portions of the screws passing through them. Thus in operation when the screws 13 are turned in one direction the members of the ring-clip 15 will be separated, enabling the said clip to be slipped over the hub of the wheel, as is shown in Fig. 3, and then by turning said screws 13 in an opposite direction the members of said ring-clip 15 are made to firmly clamp the said hub, rendering the sprocket-wheel A³ while separable therefrom practically integral therewith.

Adjacent to the forward portion of the rear wheels A² bearings 16 are made to straddle the upper side edges of the body A, which bearings are in transverse alinement, as is shown in Fig. 3, and the bearings are held firmly in place by set-screws 17, passed through one of their lower members to an engagement with the wagon-body, as is shown in Fig. 2. Therefore these bearings can be removed when not needed. A drive-shaft 18 is mounted to turn in said bearings 16, and said drive-shaft 18 is of sufficient length to extend beyond the outer side faces of the rear wheels A² of the body. The shaft 18 is prevented from having end movement by collars 20 thereon located at each side of the bearings 16, as is best shown in Fig. 3. At the right-hand end of the shaft 18 a series of sprocket-wheels is located adapted to turn with the shaft, and said sprocket-wheels are preferably two or more in number, usually three, wherein one sprocket-wheel 21 is of largest diameter, another sprocket-wheel 22 of the smallest diameter, and the third sprocket 22 is of medium diameter. In this

manner a change of speed can be obtained, and any particular one of the aforesaid sprockets on the shaft can be connected with the driving-sprocket A³ of the hub of the wheel by means of a suitable chain belt 24. In Fig. 3 the sprocket-wheels are shown held in place by collars 25, and said sprocket-wheels are splined on the shaft, so that they can be readily removed and shifted and will turn with the shaft or cause the shaft to turn with them.

At the left-hand extended end of the shaft 18 a sleeve 26 is loosely mounted, and on this sleeve, preferably nearer its inner than its outer end, a box-bearing B is loosely mounted, which box-bearing, as is shown in Figs. 2 and 5, is in two sections 27 and 28, connected by suitable bolts, and the box-bearing is provided with an upper central chamber 29, and said sleeve 26 passes through said chamber and out at the sides of the bearing. Said bearing B is further provided with a central vertical chamber 30 in its lower portion which is in communication with the upper circular chamber 29. The box-bearing B is held in place by engagement with a collar 31, integral with or attached to the sleeve 26, which collar engages with the outer side face of the box-bearing B, and the box-bearing has bearing against the hub of a pulley 32, which is secured to the sleeve 26 by means of a screw 33, a pin, or the like.

At the extreme left-hand end of the drive-shaft 18 a reel C is loosely mounted, and this reel is prevented from slipping from off the shaft by means of a plain nut and cotter-pin located at the left-hand extremity of the shaft. The inner end portion of said reel C has bearing against the outer end of the sleeve 26 on the drive-shaft 18, as is also shown in Fig. 2. While the reel C may be constructed as desired, by preference it consists of a cylindrical body 35 and spoked or stellated heads 36, and also preferably the reel is provided with a hub 36^a, screwed therein and extending from head to head. The reel C is turned by means of a driving-arm C', which driving-arm is secured to or constitutes an integral portion of the outer end of the sleeve 26, mounted on the drive-shaft 18. The arm C' extends from opposite sides of the said sleeve and is provided at its ends with horizontal outwardly-extending lugs 37, which enter opposing spaces between the spokes 36 of the inner head of the reel, as is also best shown in Fig. 2. Under this construction it will be observed that when wire is to be reeled off from the reel the reel and sleeve 26 turn freely on the shaft 18. When, however, wire is to be wound upon the said reel C, the sleeve 26 is driven from the main or drive shaft 18, and the said sleeve, through the medium of the said driving-arm C', turns the reel in the required direction. This driving action between the drive-shaft 18 and the

sleeve 26 is brought about through the medium of a strap-clutch 38, which surrounds the peripheral portion of the pulley 32, secured to the said sleeve. This strap clutch or brake is made in two sections, as illustrated in Fig. 8, having one of their end portions connected by a suitable pivot-pin 39, while at the opposite ends of the sections of said clutch 38 outwardly-extending parallel and spaced lugs 40 are formed. A packing 41, of rawhide or the like, is placed between the periphery of the pulley 32, which may be termed a "transmitting-pulley," and the clutch 38 operating thereon, in order to provide for the greatest possible frictional engagement between the said clutch and said transmitting-pulley. The clutch is supported by means of a cross-head 42, secured to the drive-shaft 18, between the inner end of the sleeve, the inner face of the hub of the pulley 32, and the adjacent collar 20 on the shaft, as is particularly shown in Fig. 2. The pivot-pin 39 for the sections of the clutch 38 is secured at one end of the said cross-head 42, and at the opposite end of the cross-head a lug 43 is formed which extends into the space between the lugs 40 on the members of the clutch 38, as is shown in both Figs. 2 and 8, and a right and left hand threaded screw 44 is passed through correspondingly threaded apertures in the said lugs 40 of the clutch and loosely through an aperture in the lug 43 of the cross-head. Thus by turning the screw 44 in one direction the members of the clutch will be carried away from the transmitting-pulley 32, and when the screw 44 is turned in a reverse direction the said members of the clutch 38 will be brought into clamping engagement with the transmitting-pulley 32, thus compelling the pulley to turn with the shaft 18 and cause the reel C and the sleeve 26 to also turn with the shaft.

A bracket E' is made to extend out from the left-hand side of the body A at a point in front of the drive-shaft 18, and said bracket at its inner end straddles the upper edge of the left-hand side piece of the wagon-body and is held in position by a set-screw e. (Shown by dotted lines in Fig. 3.) The bracket E' extends sufficiently outward to bring its outer end practically in alinement with the inner head of the reel C, and at the upper inner portion of the bracket E' a bearing 45 is formed. Upon the upper arm 46 of the said bracket, at the upper portion of its outer end, a second bearing 47 is provided in horizontal alinement with the bearing 45. A bar 48, preferably rectangular in cross-section, is made to slide in said bearings 45 and 47 and likewise in an alining bearing 49, attached to the upper portion of the right-hand side piece of the wagon-body, as shown in Fig. 3.

A guide-pulley 50 for the wire passing from or being led to the reel C is secured to

the outer end of the bar 48, which may be termed a "guide-bar," and said bar 48 is adapted to have end movement in its bearings, the extent of the movement being such as to cause the guide-pulley 50 to travel ordinarily from one side of the reel to the other, thus insuring the wire leaving the reel evenly and being evenly wound thereon. This movement of the guide-bar 48 is accomplished in the following manner: Brackets 51 extend up from the rear face of the upper arm 46 of the bracket E', as is shown in Figs. 3 and 4, and in each of said brackets 51 a sprocket-wheel 52 is mounted to turn, and a chain belt 53 is passed over these sprocket-wheels. A link of the belt 53 has one end of a crank-arm 54 pivotally attached thereto, the other end of said crank-arm being pivotally connected with the guide-bar 48, as is also shown in Figs. 3 and 4. A bearing-bracket 55 is likewise constructed on the arm 46 of the bracket E' between the brackets 51, carrying the sprocket-wheels 52, and this central bracket 55 journals the rear end portion of a shaft 56, the forward end portion of which shaft is journaled in the arm 46 of the bracket E', as is particularly shown in Fig. 4.

A sprocket-wheel 57 is secured to the shaft 56, being located between the central bearing-bracket 55 and the arm 46 of the main bracket E', and a lip 58 is carried from the central or bearing bracket 55 over the upper portion of the lower stretch or lead of the chain 53 in order to hold the said lower stretch of chain in engagement with the teeth of the lower sprocket 57. Thus when the shaft 56 is revolved the sprocket 57 will cause the chain 53 to move. The shaft 56 has a swivel connection 59 with a shaft 60, which shaft 60 leads to the rear and is journaled at its rear end in the box-bearing B, crossing the lower vertical chamber 30 therein, as is shown in Fig. 5, and this shaft 60 is provided with a worm-wheel 61, located within the aforesaid vertical chamber 30 of the box-bearing B. This worm-wheel 61 engages with a worm 62 on the sleeve 26, said worm 62 being located within the upper chamber 29 of the said box-bearing. Thus it will be observed that when the reeling apparatus is not required the shaft 18 can run perfectly free and that when it is desired to wind up the wire it is simply necessary to bring the clutch 38 into action upon the transmitting-gear 32, whereupon the reel will be turned by the said drive-shaft and the necessary reciprocating motion will be imparted to the guide-bar 48 to carry the guide-wheel 50 transversely of the reel.

This attachment is very simple, easily applied, and is positive in all its movements, and since it is driven from a supporting-wheel of the wagon it can be employed for work over any character of ground, whereas when the device is driven only by frictional

engagement with a supporting-wheel in some characters of ground said frictional engagement does not give satisfactory results.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a reeling device, a wheel-supported frame, a shaft mounted upon said frame, a reel loosely mounted upon the shaft, a sleeve loosely mounted upon the shaft, a driving connection between the sleeve and the reel, a guide for the material on the reel and movable transversely thereof, a driving connection between the sleeve and the guide, and means for connecting and disconnecting the sleeve and the shaft.

2. In a reeling device, a wheel-supported frame, a shaft mounted upon said frame, a reel loosely mounted upon the shaft, a sleeve loosely mounted upon the shaft, a driving connection between the sleeve and the reel, a clutch device for coupling the sleeve and the drive-shaft or effecting an uncoupling thereof, a guide for the material on the reel, means for moving the said guide transversely of the reel which means include driving mechanism driven by the rotation of the said sleeve, and means for driving the drive-shaft from a supporting-wheel of the frame.

3. In a reeling device, a wheel-supported frame, a shaft mounted upon said frame, a reel loosely mounted on the shaft, a sleeve loosely mounted upon the drive-shaft, a driving connection between the sleeve and the reel, a clutch device for effecting a coupling between the drive-shaft and the sleeve, or an uncoupling of said parts, means for driving the drive-shaft from a supporting-wheel of the frame, a guide for the material carried by the reel, a mechanism for moving the said guide transversely of the reel, which mechanism comprises a reciprocating bar for the guide, a wheel-supported endless belt, a crank connection between said belt and said bar, a driving-gear for the said belt, and a shaft for the said gear driven by the rotation of said sleeve.

4. In a reeling device, a wheel-supported frame, a drive-shaft mounted to turn on said frame, a driving connection between a supporting-wheel of the frame and the said drive-shaft, a reel loosely mounted on the drive-shaft, a sleeve likewise loosely mounted on the drive-shaft, a connection between the sleeve and the reel, a guide device for the material on the reel, consisting of a support having end movement and a wheel mounted to revolve on the said support, and means for reciprocating said support, operated by the rotation of the said sleeve.

5. In a reeling device, the combination with a wheel-support, a drive-shaft mounted to revolve upon said support, a gear located on the drive-shaft, a driving-gear secured to the

hub portion of one of the supporting-wheels
for the frame, and a belt connection between
the said driving-gear and the gear on the
drive-shaft, of a reel loosely mounted on the
5 drive-shaft, a sleeve also loosely mounted on
the drive-shaft, an arm secured to the said
sleeve, having engagement with the said
reel, a guide device for material carried by
the reel, and a mechanism for moving the
10 guide device transversely of the reel, which

mechanism receives its motion from the rotation of the said sleeve.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL ANTON HADLAND.

Witnesses:

H. O. LARSON,

J. O. HATLESTAD.