

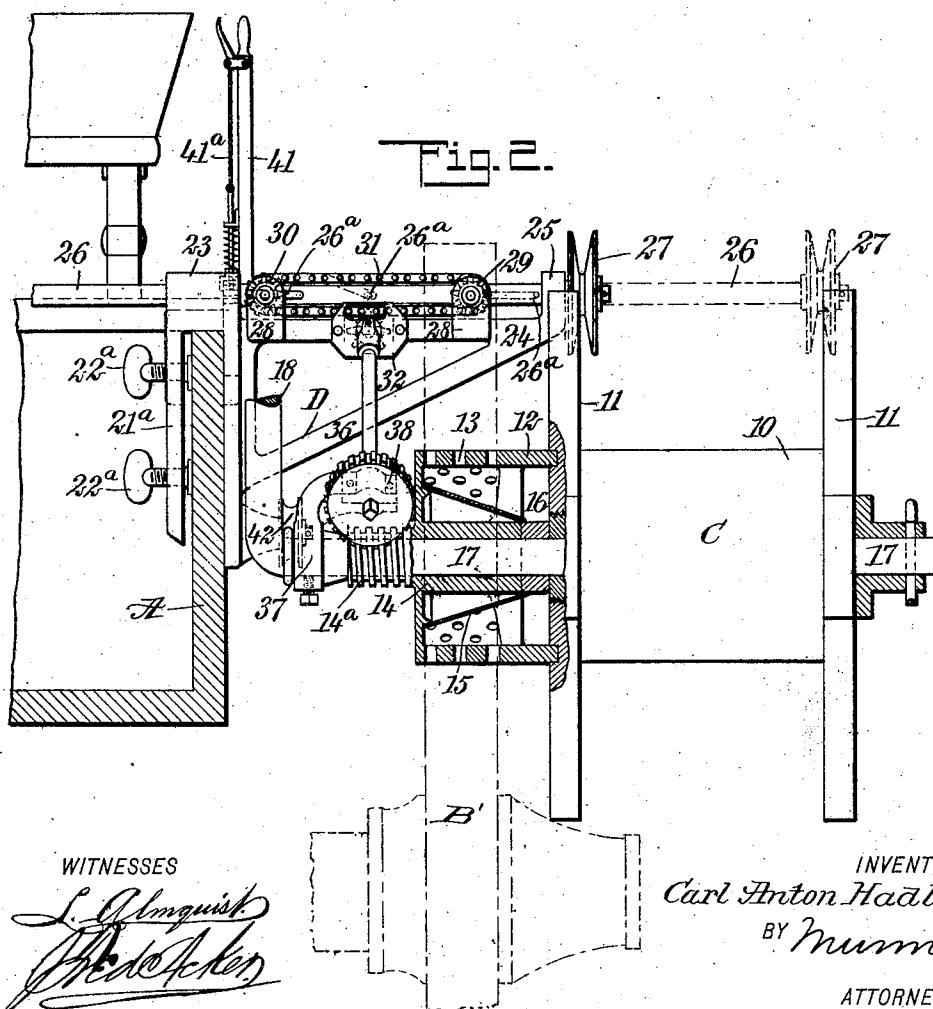
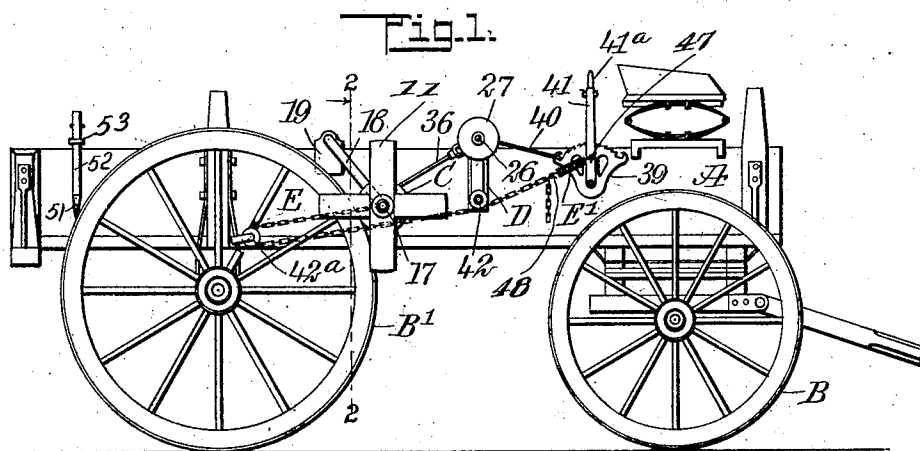
No. 845,545.

PATENTED FEB. 26, 1907.

C. A. HADLAND.
REELING DEVICE.

APPLICATION FILED JULY 10, 1906.

3 SHEETS—SHEET I.



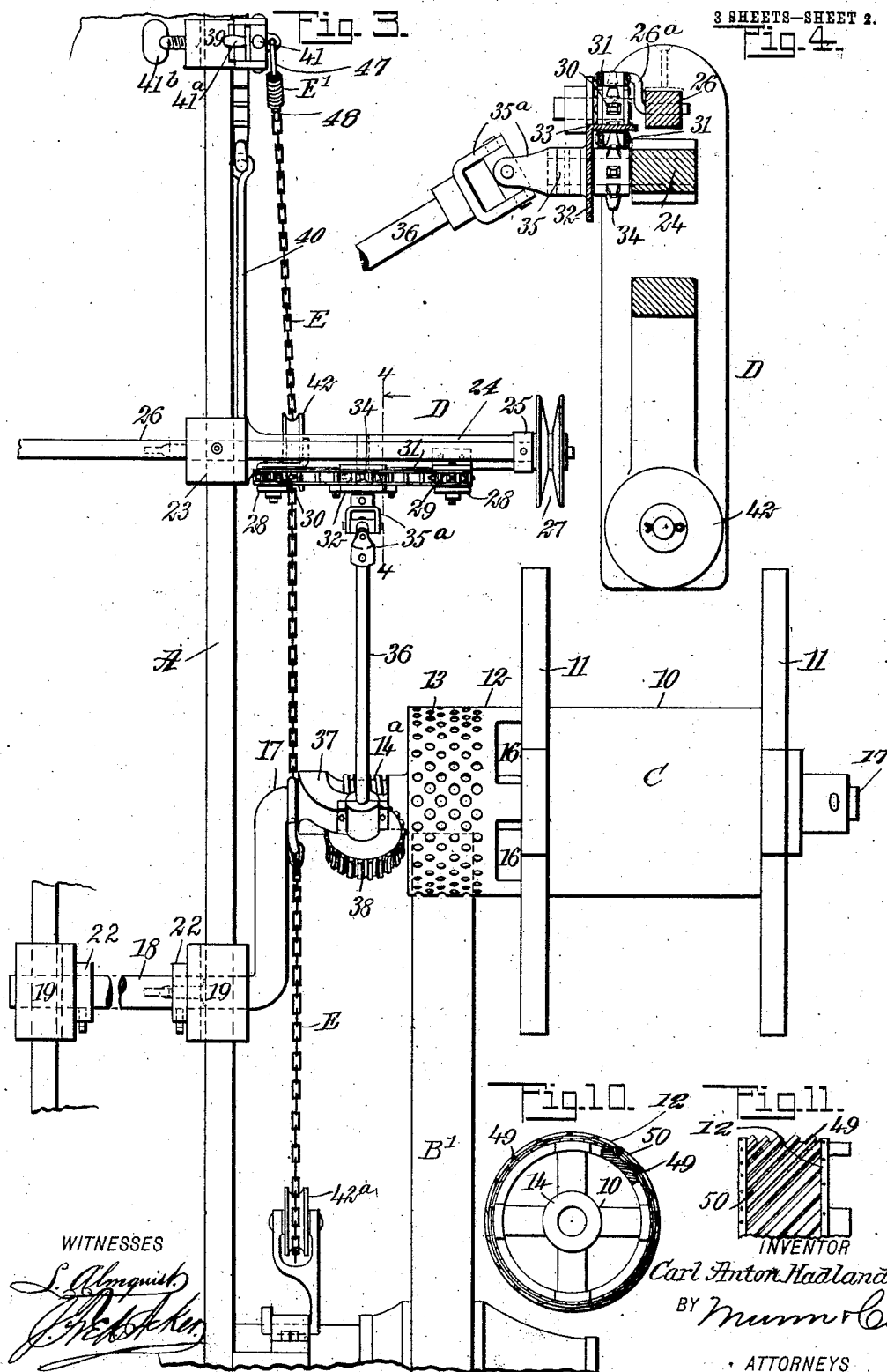
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3 SHEETS—SHEET 2.



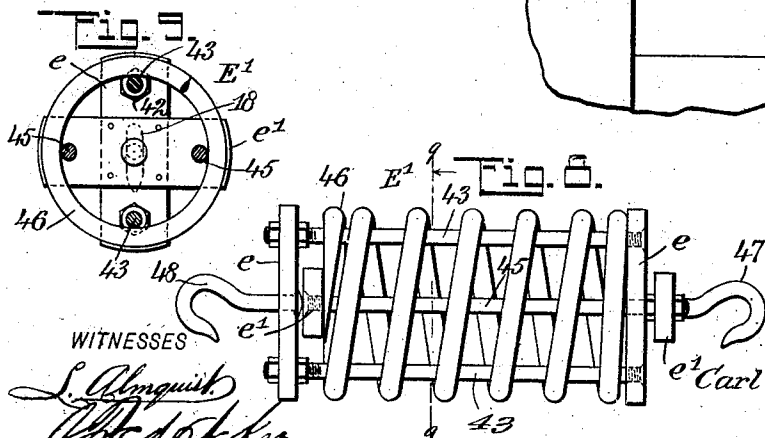
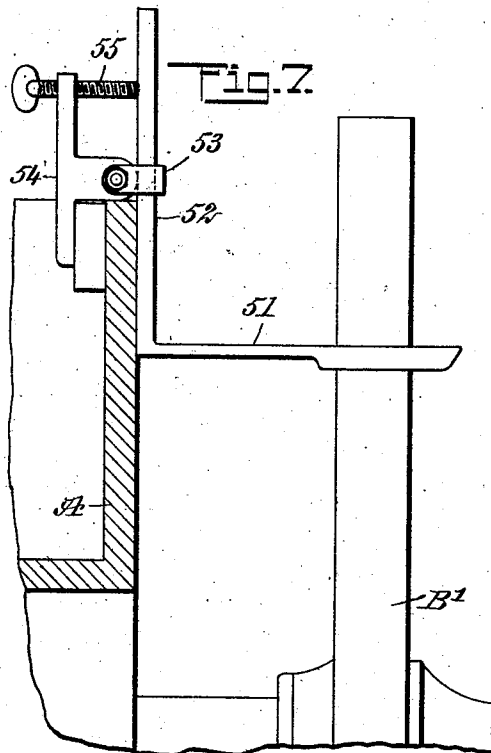
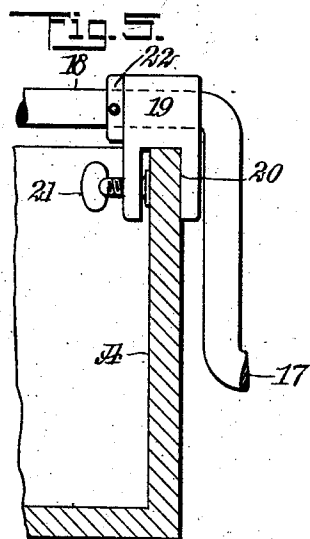
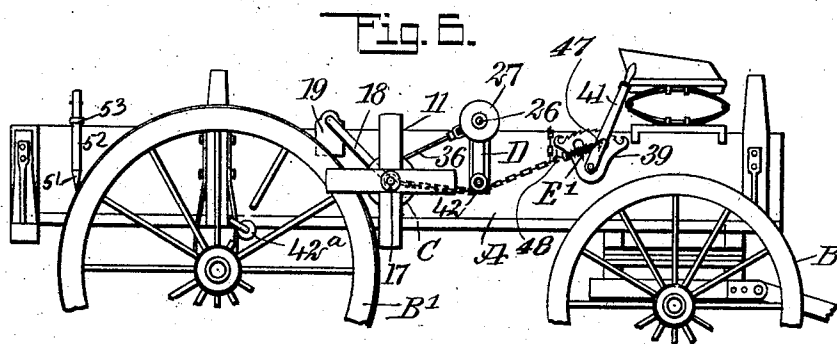
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3 SHEETS—SHEET 3.



WITNESSES

S. Almqvist
J. H. H. H.

INVENTOR

Carl Anton Hadland
BY *Munn & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

CARL ANTON HADLAND, OF BENNINGTON, MINNESOTA.

REELING DEVICE.

No. 845,545.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed July 10, 1906. Serial No. 325,496.

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.

My invention relates to a device for reeling wire and similar material, and is designed to be mounted upon a wagon-body so that the wire may be reeled or unreeled as the wagon moves; and the purpose of the invention is to improve upon the construction of the device for which Letters Patent were granted to me July 4, 1905, No. 794,008, the improvement being such as to simplify the construction to a material degree and to render the action of the device more positive and reliable.

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 having the improved reeling device applied. Fig. 2 is a vertical transverse section through a portion of the wagon-body and through the device, substantially on the line 2-2 in Fig. 1, viewed in the direction of the arrow. Fig. 3 is an enlarged plan view of the device and a portion of the wagon-body. Fig. 4 is an enlarged vertical section of details, taken practically on the line 4-4 of Fig. 3. Fig. 5 is an enlarged vertical section through a portion of the body of the wagon and a side elevation of the reel-shaft, illustrating the manner in which the said reel-shaft is mounted on the body of the wagon. Fig. 6 is a view similar to that shown in Fig. 1, but illustrates a different position of the shifter-chain, the said chain in Fig. 1 being in position to bring the reel in operative engagement with a supporting-wheel of the wagon, whereas in Fig. 6 the position of the shifter-chain is that which it occupies when the reel is to be held out of engagement with the said supporting-wheel. Fig. 7 is an enlarged vertical section through a portion of the body of the wagon, showing a cleaning device for the supporting-wheel that is to be employed as a driver for the reel. Fig. 8 is a side elevation of a tension device used in connection with the shifter-chain. Fig. 9 is a transverse section

taken practically on the line 9-9 of Fig. 8. Fig. 10 is a transverse section through the extended portion of the reel or that portion which is to engage the supporting-wheel of the wagon, illustrating a slight modification in its construction; and Fig. 11 is a plan view of a portion of the device shown in Fig. 10.

A represents the body of a wagon which is provided with the customary forward wheels B and rear wheels B', and C represents the reel, which is driven or turned by engagement with the tire of one of the rear wheels B'. The reel is best shown in Figs. 2 and 3, and it consists of the customary circular body 10 and head members 11. In the further construction of the reel an extension 12 is made beyond the inner head 11, and this extension 12 preferably constitutes an integral portion of said body 10 of the reel. The extension 12 is adapted to be brought into engagement with the periphery of the wheel when the reel is to be turned for winding purposes, and the peripheral portion of said extension 12 is provided with series of perforations 13, where the said extension engages with said tire of the wheel, so that any mud which may be on the wheel-tire will pass into the extension 12, which is tubular, through the said openings 13 and will be received upon a conical directing-shield 15, located within the said extension 12, as shown in Fig. 2, and the contracted end of the shield 15 is carried to openings 16, made at the inner end portion of said extension 12 from the reel. In this manner the earth received in the said extension will drop out therefrom, thus enabling the tire of the wheel to be kept free to effect the best possible frictional engagement between the reel and the tire.

The extension 12 is provided with a hub 14, which is preferably a continuation of the hub of the body 10 of the reel, and the hub 14 of the extension 12 extends beyond its inner or closed end and is provided with a worm-thread 14^a, as shown also in Figs. 2 and 3.

The reel C is mounted to turn loosely on a spindle 17, formed at one end of a crank-shaft 18. This crank-shaft 18 is generally carried from side to side of the body A of the wagon and is mounted to rock in bearings 19, the lower ends 20 of which are bifurcated to receive the upper edge of said body A, as shown in Fig. 5, and the bearings are held in place by set-screws 21, passed through the lower member of a bearing to an engagement with the body of the vehicle. The shaft 18

is prevented from having end movement by collars 22, secured to said shaft adjacent to the bearings 19.

A bracket D is located on the wagon-body at that side at which the reel C is placed, and said bracket D is between said reel and the forward end of the wagon-body. This bracket, as is best shown in Fig. 2, is provided with a downwardly-extending bifurcated body member 21^a, which receives the upper edge of the body of the wagon, and said bracket D is held in place by set-screws 22^a, carried by said body-section of the bracket and engaging with the body of the wagon. A bearing 23, preferably rectangular in cross-section, is formed at the upper portion of the body-section 21^a of said bracket, and a corresponding bearing 25 is formed at the outer end of the upper horizontal arm 24 of said bracket, as is also shown in Fig. 2. The bearings 23 and 25 are adapted to loosely receive a bar 26, which has end movement in said bearings, and the bar 26 at its outer end is provided with a peripherally-grooved guide-pulley 27, which when the reel is being turned to wind wire thereon, for example, moves transversely between the heads of the reel, so as to conveniently distribute the wire evenly on the body of the reel, and said action is automatically brought about in a manner to be hereinafter described.

At one side of the arm 24 of the bracket D, preferably the rear side, upwardly-extending brackets 28 are formed, as shown in Figs. 2 and 3, and on these brackets sprocket-wheels 29 and 30 are mounted to turn, the sprocket-wheel 30 being upon the innermost bracket 28, as is shown in Fig. 2. An endless chain belt 31 is passed over the sprocket-wheels 29 and 30, and a bearing 32 is located on the arm 24 of the bracket D between the bearings 28. This intermediate bearing 32 has a horizontal forwardly-extending lip 33, (shown best in Fig. 4,) which extends over the central portion of the lower stretch of the endless chain belt 31 and prevents this lower stretch or lead of the chain from pulling away from a sprocket-wheel 34, which is immediately beneath the lower stretch of the chain, as shown in Fig. 4, said sprocket-wheel being mounted upon a short shaft 35, journaled in the bearing 32 and in the arm 24 of the bracket D, as also shown in Fig. 4. This short shaft 35 has a swivel-coupling connection 35^a with the upper end of a shaft 36, which extends downward and to the rear, being journaled at its lower end in a bearing 37, formed upon or attached to the spindle 17, where it connects with the crank-shaft 18. A worm-wheel 38 is carried at the lower or rear end of the shaft 36, and this worm-wheel meshes with a worm 14^a on the extension from the reel, as is shown in Figs. 2 and 3. In this manner when the reel is being turned by engagement with a supporting-wheel of

the wagon-body when the latter is in motion rotary motion is imparted through the shaft 36 to the shaft 35 and from said shaft 35 to the endless belt 31. The necessary reciprocating or end movement is imparted to the sliding bar 26 by means of a crank-arm 26^a, (shown best in Figs. 2 and 4,) and said crank-arm is pivotally connected with a link of the chain 31 and is likewise pivotally connected with the bar 26. Thus it will be observed that as the chain revolves the bar 26 is given an alternate forward and rearward movement in a horizontal direction.

A rack 39 is secured to the outer side face of the wagon-body A out in advance of the bracket D and adjacent to the driver's seat, and said rack 39 may be connected with the bracket D by a brace 40, if so desired, as shown in Figs. 1 and 3, said brace being omitted in Fig. 6, since it is not absolutely necessary. A lever 41 is pivoted on the rack 39, being provided with the customary thumb-latch 41^a for engagement with the teeth of the rack, and a tension device E' is removably connected with the forward end of the chain E and with the lever 41, which chain when the reel is to be carried from and held out from engagement with the wheel of the wagon-body, as is shown in Fig. 6, is carried to the rear and in engagement with a guide-pulley 42, located at the lower inner end of the bracket D, and then said chain is attached to the inner end of the spindle 17, on which the reel C is mounted, so that by carrying the lever forward at such time the chain will be drawn forward, and consequently the crank-arm of the crank-shaft carrying the spindle will be carried upward and forward away from engagement with its driving-wheel. It is not necessary to drive the reel when wire is to be unwound therefrom, since it will move off from the reel readily as the wagon is moved in a proper direction. When, however, it is desired to wind or to rewind wire upon a reel C, then the chain E, which is of a suitable length, is carried from the tension device E' to an engagement with the friction-roller 42, then rearward beneath the reel to an engagement with a friction-roller 42^a, located above the axle upon the body of the vehicle or other suitable portion thereof, and, finally, the chain is again carried forward and its end is attached to the spindle 17 of the reel, as is illustrated in Fig. 1, and when the lever 41 is now operated in a forward direction the draft on the chain will be rearward on the spindle instead of forward, and the reel will be brought into frictional engagement with the driving-wheel of the vehicle and can be so held as long as desired by means of a thumb-latch 41^a and the aforesaid rack 39.

With reference to the preferred form of tension device employed, it is illustrated in detail in Figs. 8 and 9, and it consists of two

frames, one sliding in the other with an interposed spring. In said detail construction of the device one frame consists of opposing parallel head-bars *e*, which are connected by bolts 43. The other frame consists of head-bars *e'*, which bars *e'* are parallel with each other, but are at right angles to the bars *e*, and one of the bars *e'* is at the inside of one of the bars *e*, while the other bar *e'* is at the outer side of the opposing bar *e*. The bars *e'* are connected by rods 45, and preferably the rods in each frame are two in number. Finally, a spring 46 is coiled around all of the connecting-bars 43 and 45, and one end of said spring has bearing against one of the head-bars *e* and the other end of the spring has bearing against an opposing head-bar *e'*. A hook 47 is secured to the outermost head-bar *e'*, and a corresponding hook 48 is secured to the outer head-bar *e*, as is shown particularly in Fig. 6. One of said hooks is attached to the lever 41, while the other hook is connected with the forward link of the chain E.

In Figs. 10 and 11 I have shown a slight departure in the formation of the surface of the reel extension 12 that engages with the driving-wheel B'. The departure consists in omitting the apertures 13 and the conical deflecting plate or shield 15 and in substituting diagonal ribs 49, which are located on the periphery of the extension 12, the said ribs having their upper faces inclined in the same direction, so as to form series of diagonal grooves or gutters 50 between the ribs, and in operation said ribs will scrape the dirt from the tire of the wheel, and the dirt will thereupon escape out through the grooves 50.

In Fig. 7 I have illustrated a device particularly adapted for scraping the tire of the wheel B' when the reel is not provided with an equivalent device. This auxiliary device consists of a knife 51, which engages with the tire of the wheel and is attached to or is an integral portion of a shaft 52, which extends up at the outer side of the body A through a loop member 53, pivotally attached to the outer end of the shank-section of a T-arm 54, and in placing this arm one of its head members engages with the inner face of the body A of the wagon, while its other member extends vertically beyond the upper edge of the wagon parallel with the upper portion of the shank 52, and a set-screw 55 is passed through the upper head member of said T-arm 54 to an engagement with the upper portion of the shank 52 of the knife. Thus by turning the screw so as to bear firmly against said shank 52 above its point of leverage the lower portion of the shank and the heel of the knife are made to bear positively and se-

curely against the body of the wagon, effectually holding the knife 51 in working position.

The rack 39 and accompanying lever 41 are removably secured to the body A of the wagon by one or more set-screws 41^b in the same manner as equivalent parts of the attachment described.

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

1. In a reeling device, a removable frame, a shaft having a crank-arm pivoted on the frame, a reel mounted on the crank-arm, and means for holding the reel in or out of operative position, comprising a lever, and flexible connections between the crank-arm and the lever.

2. In a reeling device, a removable frame, a shaft having a crank-arm pivoted to the frame, a reel mounted on the crank-arm, and means for holding the reel out and in operative position, comprising a lever, flexible connections between the crank-arm and the lever, and a tension device interposed between the flexible connections and the lever.

3. A reeling device comprising a removable frame, a reel mounted upon the frame, means for holding the reel under tension in a position to be rotated by a moving surface, said means comprising a rock-shaft for the reel and mounted on the frame, a lever at one side of said shaft, a flexible connection between the lever and the shaft, and a guide for the said flexible connection located on the frame beyond the opposite side of the said shaft.

4. In a reeling device, the combination with a removable frame, a reel mounted upon the same, means for holding the reel under tension in a position to be rotated by a moving surface, and a cleaning-section carried by the said reel, being in engagement with the said moving surface.

5. A reeling device comprising a removable frame, a supporting-wheel therefor, a shaft mounted upon the frame, a reel mounted on the shaft, means for holding said reel under tension in a position to be rotated by the supporting-wheel of the frame, an extension from the said reel, and means carried by said extension for removing mud from the wheel with which it engages.

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

CARL ANTON HADLAND.

Witnesses:

E. M. EDWARDS,
R. E. SHEPHARD.