

No. 716,250.

Patented Dec. 16, 1902.

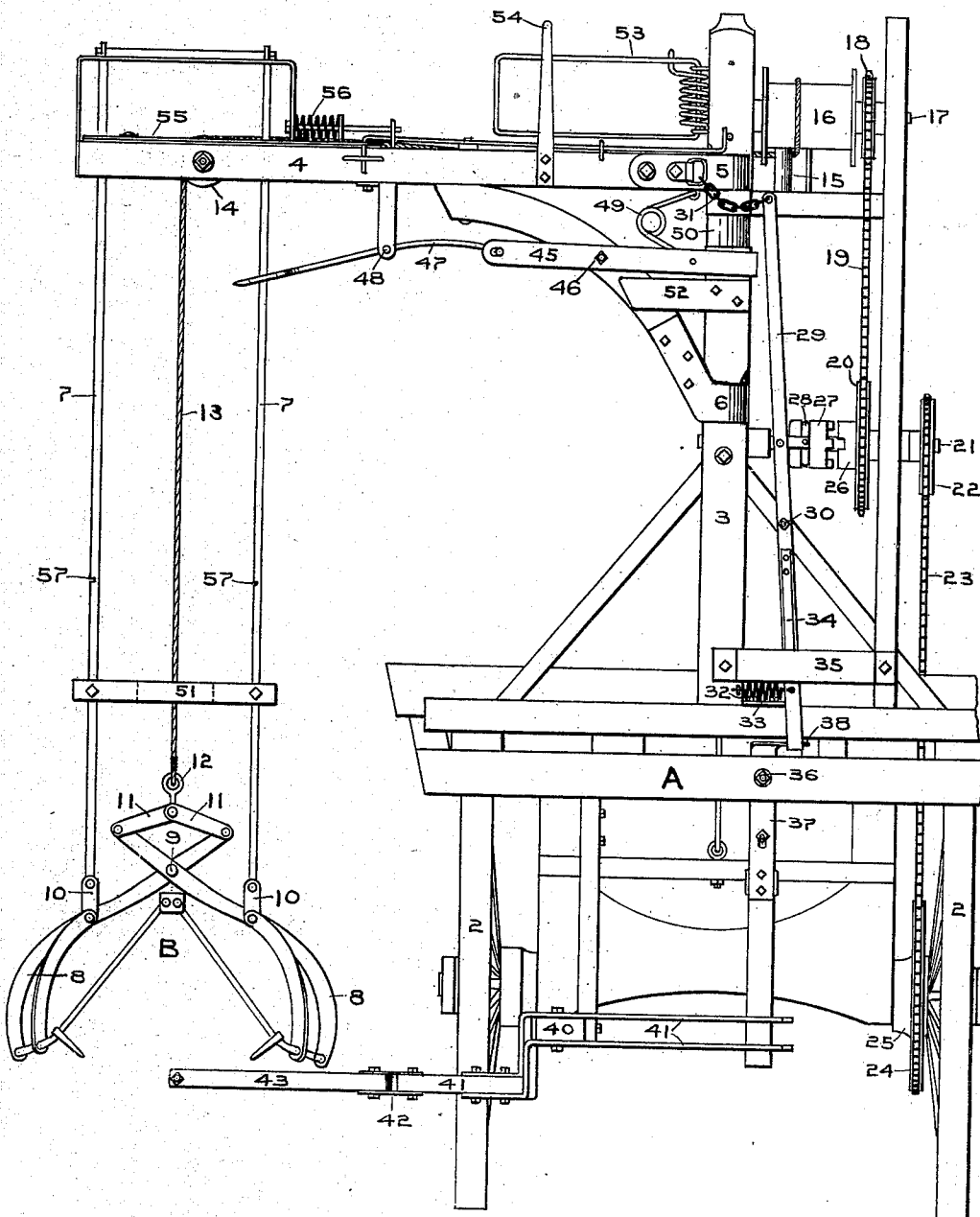
H. O. KOLSUN.
SHOCK LOADER.

(Application filed May 28, 1902.)

(No Model.)

5 Sheets—Sheet 1.

Fig. 1.



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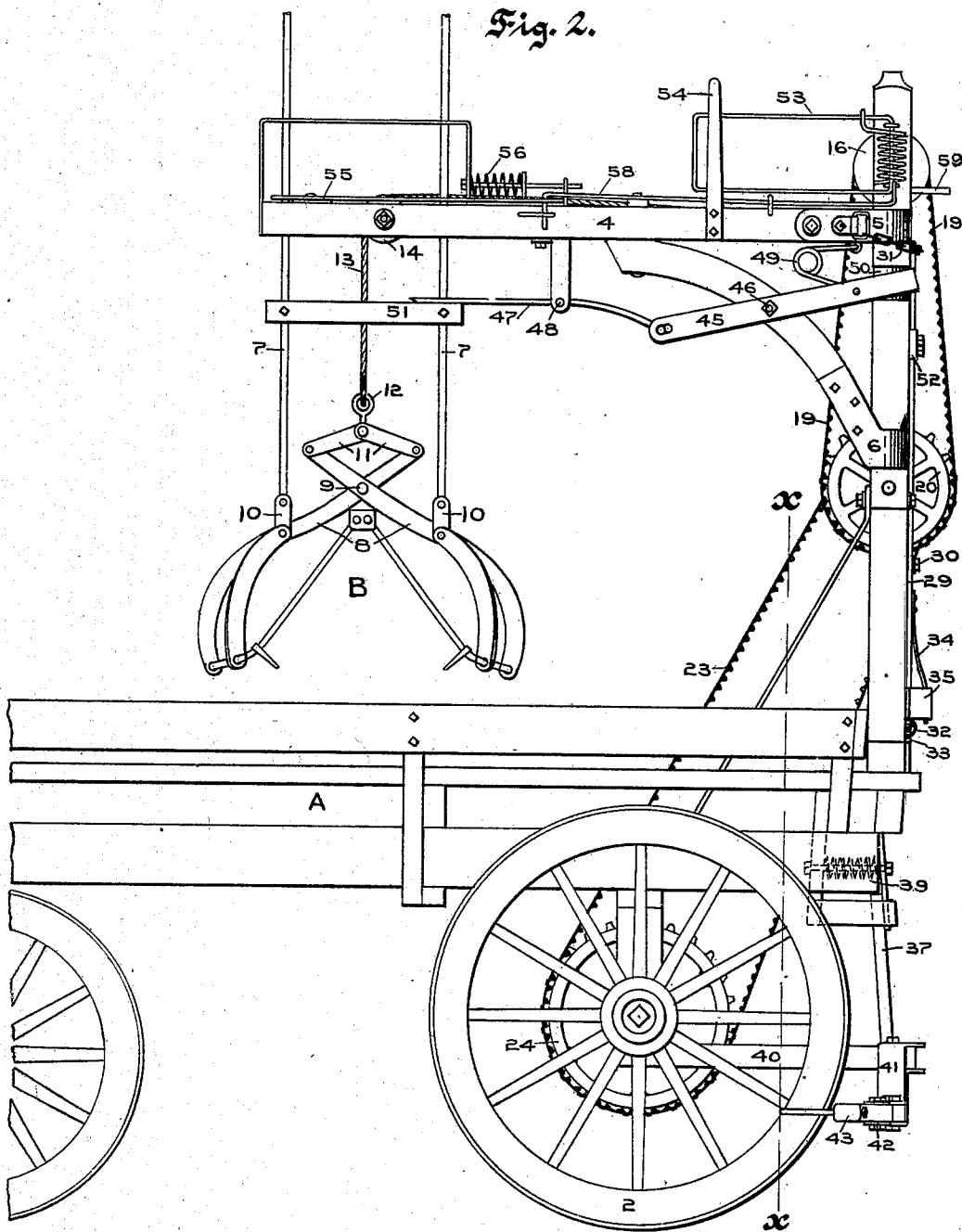
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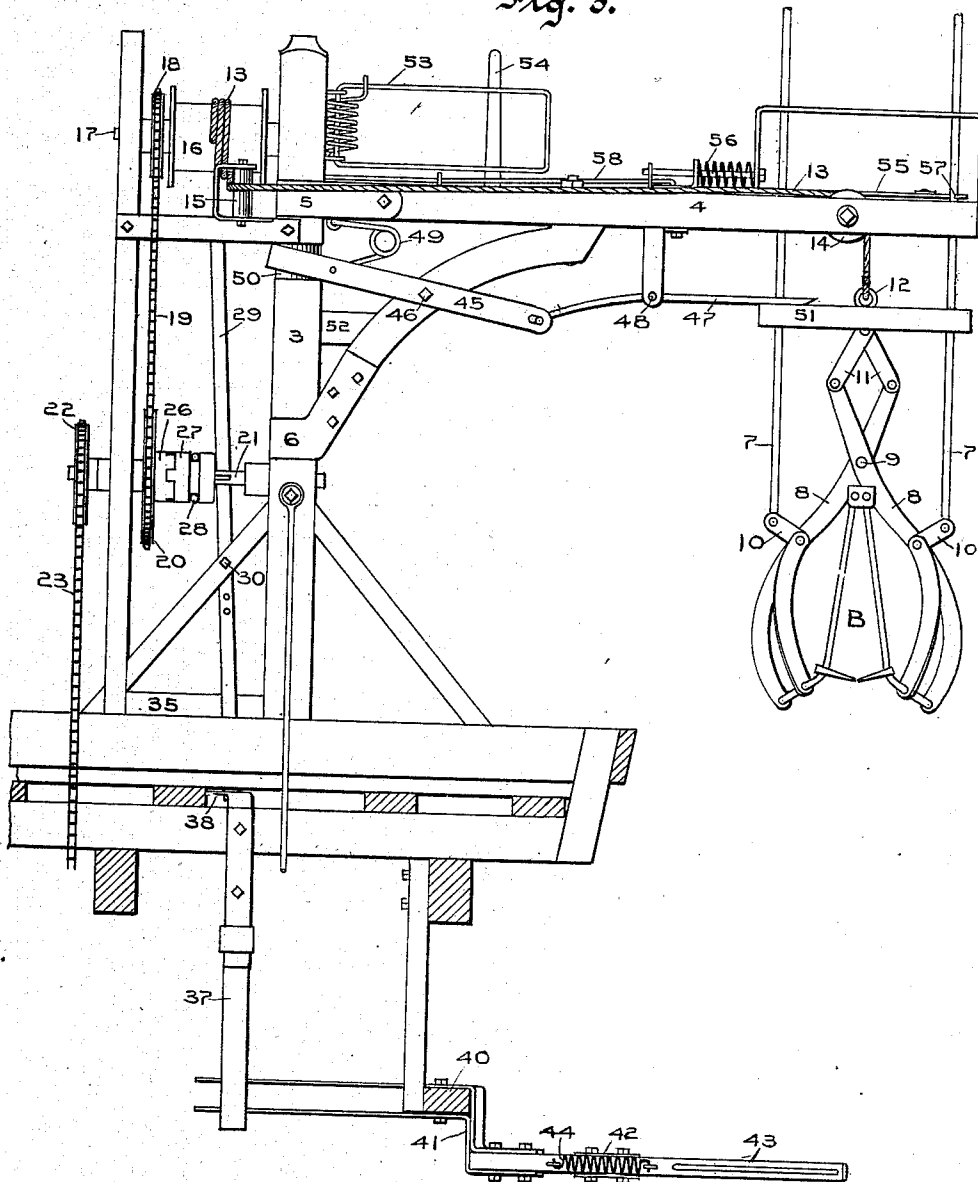
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Fig. 3.



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Fig. 4.

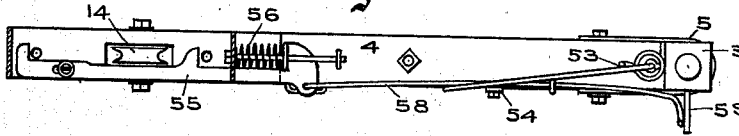


Fig. 5.

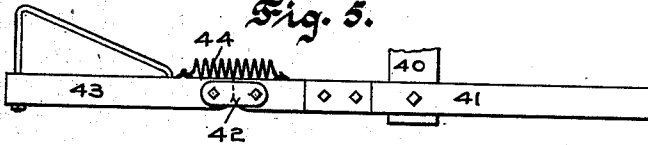


Fig. 6.

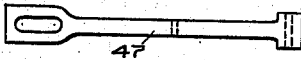


Fig. 7.

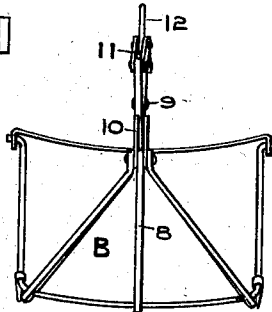
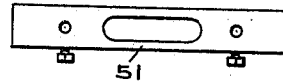


Fig. 8.



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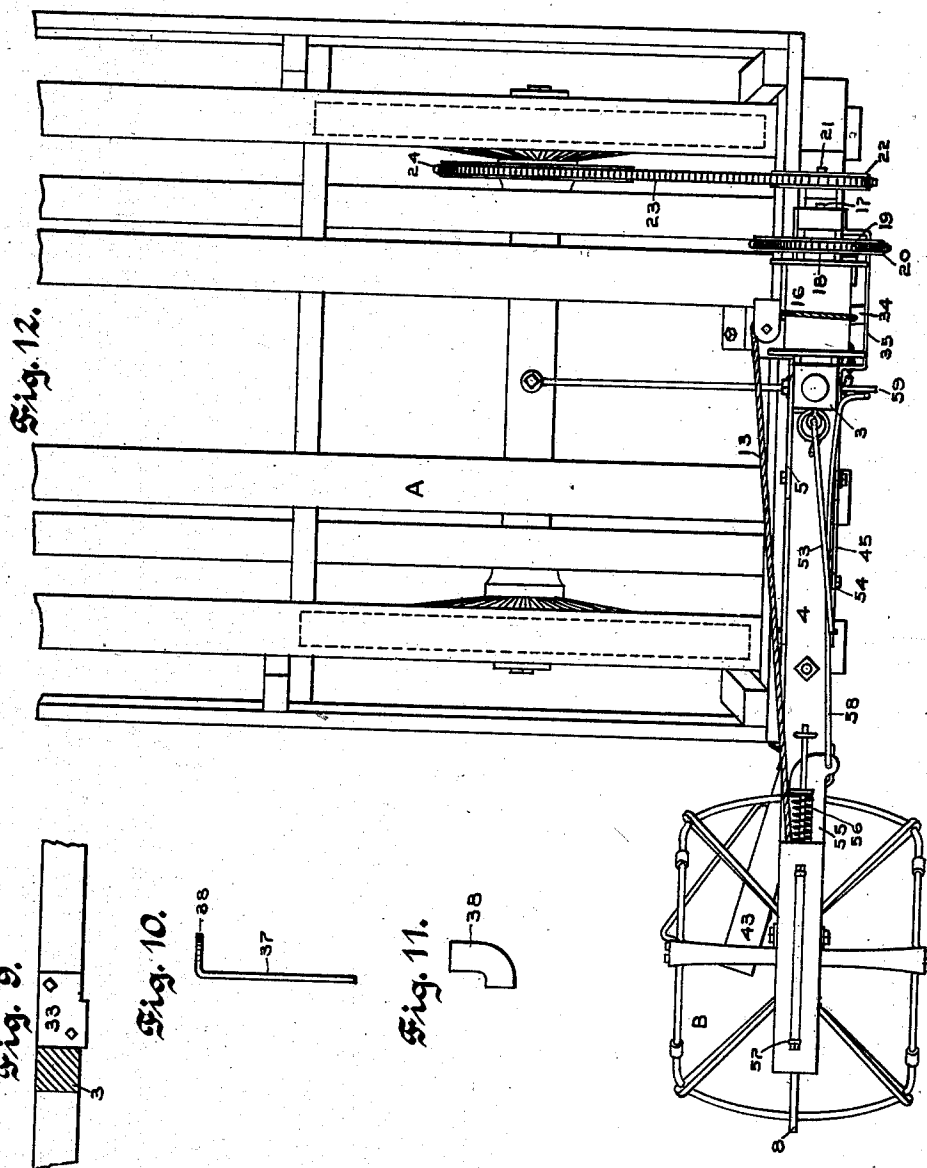
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5 Sheets—Sheet 5.



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UNITED STATES PATENT OFFICE.

HELMER O. KOLSUN, OF ETTER, MINNESOTA.

SHOCK-LOADER.

SPECIFICATION forming part of Letters Patent No. 716,250, dated December 16, 1902.

Application filed May 26, 1902. Serial No. 108,912. (No model.)

To all whom it may concern:

Be it known that I, HELMER O. KOLSUN, a citizen of the United States, residing at Etter, in the county of Dakota and State of Minnesota, have invented certain new and useful Improvements in Shock-Loaders, of which the following is a specification.

My invention relates to improvements in shock-loaders, its object being to provide means in connection with a wagon or rack adapted to be actuated in the travel of the vehicle to lift shocks from the ground and deposit them upon the wagon.

To this end my invention consists in the features of construction and combination herein-after particularly described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 represents a rear elevation of a wagon embodying my improvements. Fig. 2 is a partial side elevation of the same. Fig. 3 is a section through the wagon-box on line *xx* of Fig. 2, showing the shock-lifting mechanism extending beyond the side of the wagon with the shock-engaging means in raised position. Fig. 4 is a top view of the upper horizontal beam of the lifting mechanism. Fig. 5 is a top view of the shock-actuated tripping-lever forming part of my invention. Fig. 6 is a detail of a lever forming part of the actuating mechanism. Fig. 7 is a detail of the shock-engaging arms. Fig. 8 is a detail of a cross-bar carried by the supporting-rods of the shock-lifter. Fig. 9 is a section through the lower end of the main standard, showing the connected framework partially broken away. Fig. 10 is a side elevation of one feature of the tripping mechanism. Fig. 11 is a plan view of the same; and Fig. 12 is a plan view of the machine in the position shown in Fig. 1, partially broken away.

In the drawings, A represents a wagon mounted on suitable wheels 2. Carried by the rear of the wagon is the vertical standard 3. Having swinging support upon the upper end of the standard 3 is a horizontal arm or beam 4, carrying collars 5 and 6, surrounding the standard. Vertically slidable in the outer end of the beam 4 are rods 7, carrying at their lower ends the shock-lifter B. The shock-lifter B consists of a pair of arms 8, having pivotal connection 9 and being supported from the ends of the rods 7 by links 10.

The upper ends of the arms 8 are connected by levers 11 with an eye 12, to which is connected the cable 13. The cable 13 runs over a pulley 14 in the end of the beam 4, thence passing around a roller 15 and around the reel 16, mounted upon the horizontal shaft 17. Secured alongside of the reel 16 is a sprocket-gear 18, connected by a sprocket-chain 19 with a sprocket-gear 20, loosely mounted upon the shaft 21. Mounted upon the outer end of the shaft 21 is a sprocket-gear 22, connected by a chain 23 with a gear 24, secured upon the hub 25 of the rear wagon-wheel, as shown in Fig. 2. Carried by the sprocket-gear 20 is a clutch member 26, adapted to interlock with a slidable clutch member 27, feathered upon the shaft 21. In order to actuate the clutch member 27, I provide a yoke 28, inclosing such clutch member and connected with a lever 29, having fulcrum-support 30 upon the framework. The upper end of the lever 29 is connected by a chain 31 with one side of the collar 5, and the lower end of the lever 29 projects alongside the rear edge of the wagon and is connected by a spring 32 with the framework. In order normally to hold the clutch members in released position, as shown in Fig. 1, I provide a notched plate 33, in engagement with which the lower end of the lever 29 is held by means of a spring 34, secured to the outside of said lever and engaging at its free end with the strap 35.

In order to actuate the lever 29 to throw the clutch members into engagement, I provide the following parts: Loosely mounted upon the bolt 36, passing through the rear cross-bar of the wagon, is the bar 37, carrying upon its upper end an outwardly-projecting cam 38, adapted to engage with the lower end of the lever 29. The lower end of the bar 37 is normally held forced outward by means of the spring 39. Projecting rearwardly from the wagon is a bar 40, upon the end of which is pivotally supported the lever 41, one end of the lever standing outside the lower end of the bar 37 and the opposite end of the lever having hinge connection 42 with an arm 43, the arm 43 being normally held in alinement with the lever 41 by a spring 44. In order to hold the supporting-arm 4 in the position shown in Fig. 1, I provide the collar-band 45, having pivotal support 46 in the

framework. One end of the collar-band is rectangular and surrounds the standard 3, and the opposite end is pivotally connected with a lever 47, having pivotal support 48, the free end of the lever 47 being provided with an opening through which passes one of the rods 7. A spring 49 is interposed between the inner end of the collar-strap and the framework above to hold the end of the collar-strap below the round portion 50 of the standard 3. The inner end of the collar-strap thus normally fits the rectangular portion of the standard 3, preventing turning of the collar-strap, and consequently holding the beam 4 in outturned position. As the shock-lifter is raised in the operation of the machine the cross-bar 51 comes in contact with the free end of the lever 47, turning said lever upon its pivotal support 48 and turning the collar-strap against its spring 49 to carry the inner end of the strap to the round portion 50 of the upright standard 3, allowing the arm 4 to be swung inward over the wagon. A stop 52 is provided to limit the outward swinging of the arm.

In Fig. 1 the parts are shown in position ready for use. As the wagon is drawn over the ground the clutch member 27 will be continuously revolved by means of its connection with the wheels 2. As the arm 43 strikes the shock the connected lever 41 will be turned upon its pivot, actuating the bar 37 and the lever 29 to throw the clutch member 27 into engagement with the clutch member 26. This will throw the reel 16 into operative connection with the wheels through the medium of the sprocket-chain 19 and clutch member 26, causing the reel to be actuated to wind up the cord 13. The result of this is to first close the arms of the shock-lifter upon the shock, as illustrated in Fig. 3, thereafter raising the shock-lifter. As the shock-lifter is raised the cross-bar 51 will be brought in contact with the end of the lever 47, turning the collar-strap to the circular part of the upright standard 3, as hereinbefore described. The continued winding of the cord 13 will swing the main supporting-arm 4 inward over the wagon. As the arm 4 is swung over the center of the wagon it will pull upon the upper end of the clutch-lever 29 through the medium of the chain 31, disengaging the clutch members. This will throw the reel out of operative connection with the wagon-wheels and allow the weight of the shock and shock-lifter to open the shock-lifter and deposit the shock in the wagon. The spring 53, which is secured to the upper end of the standard 3, bears at its free end against the post 54, carried by the horizontal arm 4, to turn said horizontal arm back into outturned position.

When the shock-lifter is carried into raised position, as shown in Fig. 3, it is held there by means of a slide 55, which is carried by a spring 56 into notches 57 in the rods 7. This holds the rods 7 in raised position while the

arm 4 is being carried back into outturned position. As it is carried into outturned position a rod 58, connected with the slide, is brought against a pin 59, projecting outwardly from the vertical standard 3, which forces the slide out of locking engagement with the rods 7, allowing said rods to be carried by their own weight and the weight of the shock-lifter into lowered position. This returns all of the parts to the position shown in Fig. 1, ready for a second operation.

I claim—

1. In a shock-lifter of the class described, the combination with the wagon, of a horizontal arm supported to swing upon the rear end of said wagon, a shock-lifter slidably supported in the outer end of said arm, a reel, a connection between said reel and said shock-lifter, and tripping means supported in position to be engaged and actuated by an adjacent shock to close and raise said shock-lifter through the medium of an interposed clutch, and swing the same inward over the wagon.

2. In combination with a wagon, a vertical standard supported upon the rear end thereof, a horizontal arm supported to swing upon the upper end of said standard, a shock-lifter slidably supported in the outer end of said arm, a reel, a cord connecting said reel and shock-lifter, and means for throwing said reel into operative connection with the wagon-wheels, as and for the purpose set forth.

3. In combination with a wagon, a vertical standard supported upon the rear end thereof, a horizontal arm supported to swing upon the upper end of said standard, a shock-lifter slidably supported in the outer end of said arm, a cord connecting said reel and shock-lifter, a clutch member having operative connection with the wagon-wheels and with the reel, and means for throwing said clutches into engagement.

4. The combination with a wagon provided with carrying-wheels, of a standard supported upon the rear end of said wagon, a horizontal arm supported to swing upon the upper end of said standard, spring means normally holding said arm in outturned position, a shock-loader slidably supported in the outer end of said arm, a reel, a connection between said reel and shock-loader, a clutch member having operative connection with said reel, a second clutch member having operative connection with one of the wagon-wheels, a horizontal lever pivotally supported at the rear end of said wagon, and means actuated by said lever to throw said clutch members into engagement.

5. The combination with a wagon provided with carrying-wheels, of a vertical standard supported upon the rear end of said wagon, a horizontal arm supported to swing on the upper end of said standard, a shock-lifter slidably supported in the outer end of said arm, a reel, a cord connecting said reel and shock-lifter, a clutch member having opera-

tive connection with said reel, a slidable clutch member having operative connection with one of the wagon-wheels, a horizontal lever pivotally supported at the rear end of said wagon, means actuated by said lever to throw said clutch members into engagement, and means supported by said arm for holding said shock-lifter in raised position.

6. The combination with a wagon provided with carrying-wheels, of a vertical standard supported upon the rear end of said wagon, a horizontal arm supported to swing on the upper end of said standard, a locking device normally holding said arm in outturned position, a shock-lifter slidably supported in the outer end of said arm, a reel, a cord connecting said reel and shock-lifter, a clutch member having operative connection with said reel, a second clutch member having operative connection with one of the wagon-wheels, a horizontal lever supported at the rear end of said wagon, and means actuated by said lever for throwing said clutch members into engagement.

7. The combination with a wagon and carrying-wheels, of a vertical standard supported upon the rear end of said wagon, a horizontal arm supported to swing upon the upper end of said standard, a reel, a connection between said reel and shock-lifter, a clutch member having operative connection with said reel, a second clutch member having operative connection with one of the wagon-wheels, a lever connected with one of said clutch members, a chain connecting the upper end of said lever and said horizontal arm, a cam arranged adjacent to the lower end of said lever, a pivoted bar supporting said cam, and a horizontal lever having pivotal support in connection with the lower end of said bar, for the purpose described.

8. The combination with a wagon provided with carrying-wheels, of a vertical standard supported upon the rear end of said wagon,

a horizontal arm supported to swing upon the upper end of said standard, a controlling-spring for said arm, means normally holding said arm in outturned position, a shock-lifter slidably supported in the outer end of said arm, a reel, a cord connecting said reel and shock-lifter, a slide for holding said shock-lifter in raised position, a clutch member having driving connection with one of the wagon-wheels, a horizontal lever supported at the rear end of said wagon, and means actuated by said lever for throwing said clutch members into engagement.

9. The combination with a wagon provided with carrying-wheels, of a vertical standard supported upon the rear end of said wagon, a horizontal arm supported to swing upon the upper end of said standard, a shock-lifter slidably supported in the outer end of said arm, a reel, a cord connecting said reel and shock-lifter, means normally holding said arm in outturned position, a controlling-spring for said arm, a slide for holding said shock-lifter in raised position, a clutch member having driving connection with said reel, a slidable clutch member having driving connection with one of the wagon-wheels, a lever connected with said slidable clutch member, a connection between the upper end of said lever and said horizontal arm, means normally holding said clutch members out of engagement, a cam arranged adjacent to the lower end of said lever, a pivoted bar supporting said cam, and a horizontal lever supported at the rear end of said wagon, and adapted to be actuated to throw said clutch members into engagement.

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

HELMER O. KOLSBUN.

Witnesses:

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EMILY EASTMAN.