J. B. SCHUMAN.

SHOCK LOADER AND UNLOADER.

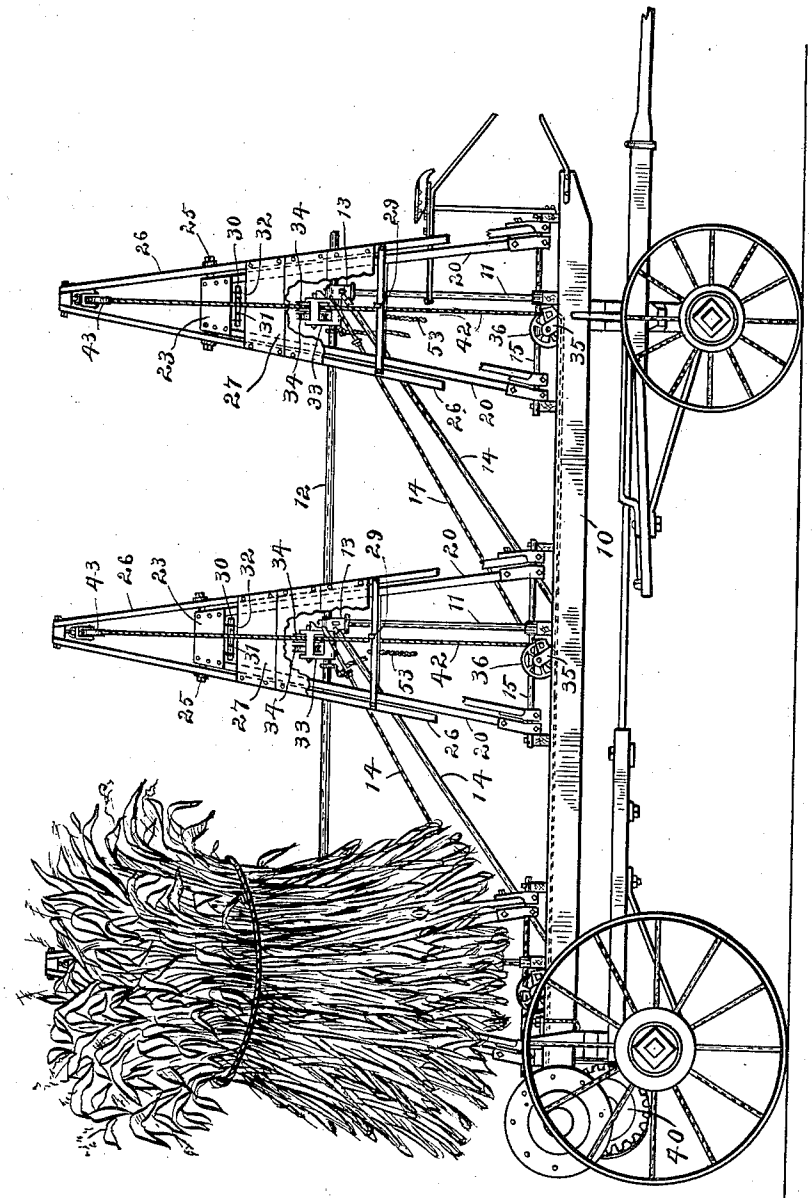
APPLICATION FILED DEC. 29, 1909.

1,030,021.

Patented June 18, 1912.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

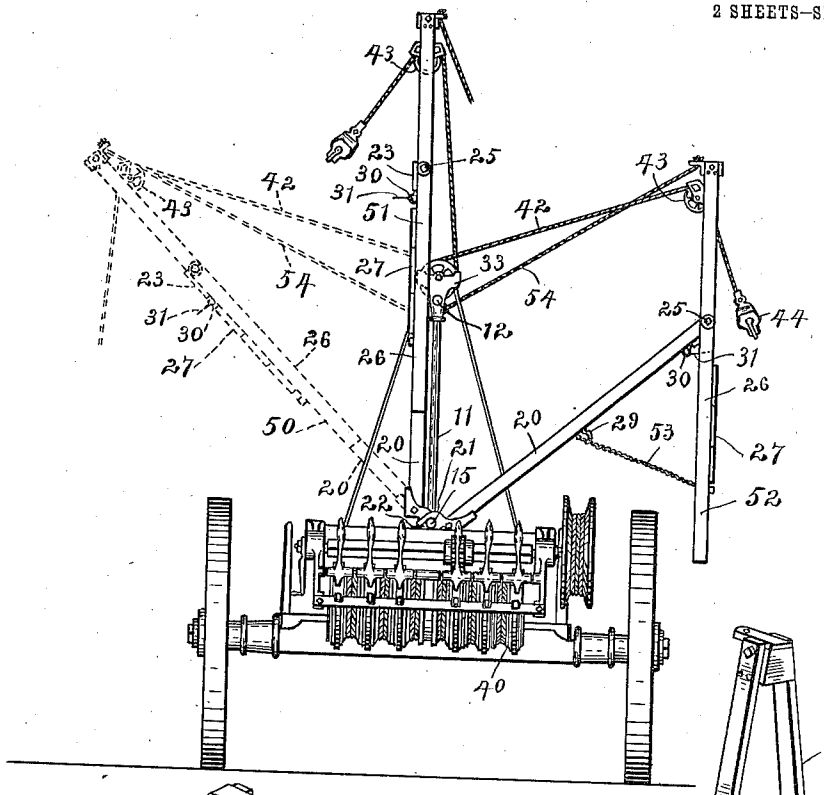

Fig. 2.

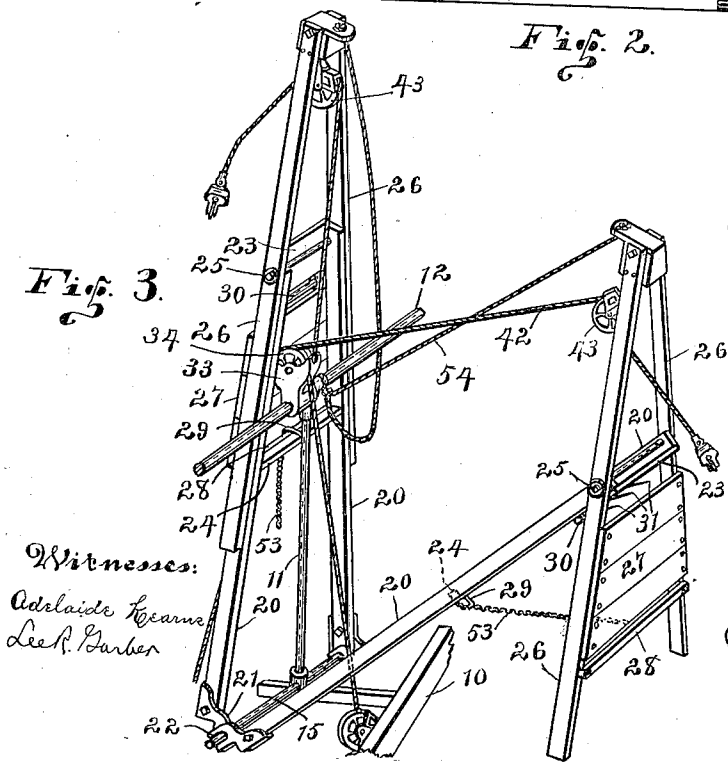

Fig. 3.

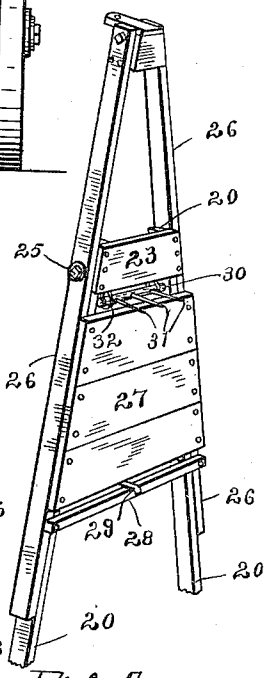

Fig. 4.

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SHOCK LOADER AND UNLOADER.

1,030,021. Specification of Letters Patent. Patented June 18, 1912.

Application filed December 29, 1909. Serial No. 535,517.

To all whom it may concern:

Be it known that I, JAMES B. SCHUMAN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Shock Loaders and Unloaders, of which the following is a specification.

My present invention relates to improvements in that class of shock loaders and unloaders (hereinafter referred to as a shock loader) shown and described in my application Serial No. 367,233, filed April 9, 1907, and consists in certain details of construction and arrangements of parts which simplify and render such an apparatus highly efficient and durable.

In the accompanying drawings, which are made a part hereof, Figure 1 is a side elevation of a shock loader embodying my invention and showing a corn shock elevated thereon; Fig. 2 a rear elevation showing shock lifters swung to different positions; Fig. 3 a perspective view showing one of said lifters in normal position and another swung to lifting position; and Fig. 4 a perspective view of my improved lifter.

Said loader consists of a portable framework, comprising suitable sills, 10, and connections, to which are secured standards, 11, connected at their upper ends to a beam, 12, by couplings, 13, said standards, beam and connections, as indicated, being composed of metal to insure lightness and durability of construction, which parts are rigidly secured together by brace rods, 14, and by which arrangement a simple framework for the purpose is provided. Also secured to said sills by appropriate connections are bearing rods, 15, which preferably pass through the lower ends of said standards 11, and upon which rods 15 I mount my improved shock lifters. My shock lifter comprises two members, the lower or base member having legs, 20, which are provided with feet, 21, each of which has a recess, as 22, by which it may be fitted onto one of said rods 15 so that the lifter as a whole may be swung transversely of the loader. Said legs 20 converge upwardly and are connected by cross-members, 23, 24. At the upper end of said shock lifter member I pivotally connect, by means of a bolt, 25, or otherwise, a substantially similar shock supporting and guiding member comprising legs, 26, which straddle said lower member, and which legs have secured thereto a shock rest, 27, of any suitable material and formation, and beneath which shock rest is a cross member, 28, which, when a lifter is in the position indicated in Fig. 1 and by the dotted lines in Fig. 2, lies flush with member 24, and is held in such position by means of a suitable latch, 29, or otherwise, the lifter in entirety in this position being substantially A-shaped. Below the connecting member 23 of the lower shock lifter member I mount an auxiliary shock support, comprising a holder, 30, in which is mounted one or more prongs, 31, and which holder is preferably rotatably connected to member 23 by staples, 32, or otherwise.

This shock loader contemplates the employment of a number of transversely movable shock lifters, preferably disposed in pairs mounted on bearing rods 15 and each of which draws a shock in vertical position up over the sills or platform of the loader on opposite sides and toward the middle thereof to centralize the load, and upon reverse movement discharges such shocks beyond the platform and deposits them at destination in upright position in substantially the same or better condition than they were before removal from the field. For each pair of these lifters I provide on beam 12 a bracket, 33, which may be formed integrally with coupling 13, or separately therefrom. In said bracket I place two sheaves, 34, and preferably on the inner sides of the sills 10 I mount swiveling brackets, 35, one for each lifter and in which is mounted a sheave, 36.

As the cable winding mechanism, 40, forms no part of my present invention, it will only be referred to herein in a general way. From a drum of said winding mechanism, as usual, I run a cable, 42, one for each shock lifter, which passes about sheave 36, thence upwardly over a sheave 34 and about sheave 43 in the upper end of the shock lifter, which cable has a suitable grappling device, 44, at its end so that said cable may be caused to encircle and grapple a shock.

By reference to Fig. 2 of the drawing it will be understood that a shock lifter, when its members are connected by means of latch 29, is practically a single rigid A-shaped structure which may be utilized in substantially the manner of a boom, as indicated at 50, Fig. 2, so that a shock may be suspended from the end thereof and then swung inwardly toward the beam 12 when the lifter is brought to the position as shown at 51; and that when said lifter is disconnected at the latching point the upper shock guiding member assumes a vertical position as indicated at 52.

In the operation of my improved loader a shock lifter is brought into shock-receiving position by releasing the winding drum upon which its cable is wound, which permits the lifter to swing outwardly over the sill or bed of the vehicle, and, when the latch or other locking means hereinbefore referred to has been released, the upper member 52, Fig. 2, assumes a vertical position, its outward lower movement being limited by means of the flexible connection, 53, and its movement at the upper side is likewise controlled by a connection, as 54, communicating therewith and with the framework. Cable 42 is then drawn out sufficiently to encircle a shock and secured by the grapple 44, when the appropriate winding drum is rotated, which causes the cable to tighten about the shock and draw the same against member 52, and the continued rotation of the drum draws said cable with the lifter and shock upwardly and toward the beam 12, during which movement the upper pivoted member of the lifter gradually laps over the lower member, so that when it reaches the beam the lifter as a whole is in the position indicated at 51, Fig. 2, when it is locked or latched and the structure held rigidly together, and the upper member thus prevented from falling outwardly during transportation of the loader, the cable winding drum, of course, being locked against further rotation. When the shock is drawn against guide member 52, the prongs 31 of the auxiliary shock support enter the shock, and as the latter is being drawn upwardly to a certain extent the holder 30, being pivotally mounted, gradually turns in the direction of the raising shock, so that the prongs in the material are held in upwardly inclined position and thus aid in supporting and holding the shock in place and preventing it from slipping along the lifter, and when said lifter is lowered and the cable released the descending shock draws said prongs downwardly into substantially horizontal position ready to receive another shock. As will be readily understood, when a shock is being deposited the lifter members are unlocked and the cable drum released, when the shock by gravity will descend outwardly over the sides of the vehicle, the upper guiding and retaining shock member during this operation assuming and maintaining a constant vertical position.

I claim as my invention:

1. A shock loader comprising sills, standards associated therewith, a beam connecting said standards, bearing rods at the lower ends of said standards, and shock lifters connected to said rods comprising lower members and upper shock-guiding members.

2. In a shock loader, a shock lifter comprising a base member provided with means for pivotally connecting the same to a bearing, a shock guide pivotally mounted on said member, and means for releasing said guide from said base member to permit said guide to stand in vertical position.

3. In a shock loader, a shock lifter comprising a pivotally mountable base member, a shock guide pivotally mounted on said member, a shock support mounted in said base member, and means for releasing said guide from said base member to permit said guide to stand in vertical position.

4. In a shock loader, a shock lifter comprising two pivotally connected members, means for locking said members to produce a substantially rigid structure, means for suspending a shock therefrom, and means for swinging said lifter transversely to elevate and lower a shock.

5. A shock loader comprising a medianly mounted upright frame portion, shock lifters mounted at opposite sides thereof having pivotally mountable legs, means for supporting and guiding a shock, and means for swinging said lifters transversely to elevate shocks upon said loader at each side of said frame.

6. In a shock loader, a frame, a shock-lifter mounted thereon comprising a lower swinging member and an upper swinging member, means for swinging said lower member transversely of the loader, means permitting said upper member to assume vertical position, and means for maintaining said upper member in vertical position.

7. In a shock loader, a shock lifter comprising two members one pivotally mounted upon the other, means for locking said members to act as a boom, and means for swinging said lifter transversely of the vehicle.

8. The combination, in a shock loader, of a portable framework comprising a shock-lifter support medianly mounted thereon, a shock lifter pivotally mounted at its lower end to said support, said shock lifter comprising two members one pivotally mounted upon the other, means for swinging said lifter transversely of said loader, and means

connecting said lifter and framework for limiting the outward movement of said lifter.

9. The combination, in a shock loader, of a portable framework comprising a shock-lifter support medianly mounted thereon, a substantially A-shaped lifter comprising a lower member and an upper swinging member pivotally mounted at its lower end to said framework, and means for swinging said lifter transversely of said loader.

10. The combination, in a shock loader, of a portable framework, a substantially A-shaped lifter mounted thereon comprising a lower member and an upper swinging member, means for swinging said lifter into shock receiving position, and means for drawing said lifter with its shock toward said framework.

11. The combination, in a shock loader, of a portable framework, a shock lifter pivotally connected thereto comprising a lower swinging member and a shock guide pivotally connected thereto, means for disengaging said guide from said lower member to swing vertically in shock receiving position, means for securing a shock to said guide, and means for drawing said lifter with its shock toward said framework.

12. In a shock loader, a shock lifter comprising a base member provided with means for pivotally connecting the same to a bearing position substantially medianly of said loader, a shock guide pivotally mounted on said member, means for releasing said guide from said base member, and an auxiliary shock support associated with said lifter.

13. In a shock loader, a shock lifter comprising a base member provided with means for pivotally connecting the same to a bearing, a shock guide pivotally mounted on said member, means for releasing said guide from said base member, and an automatically acting auxiliary shock support associated with said lifter.

14. A shock loader comprising a vehicle, standards secured thereto, a beam connecting said standards, bearing rods near the lower ends of said standards, shock-lifters connected to said rods, and means for swinging said lifters transversely of said vehicle to shock-receiving and shock-sustaining positions.

15. The combination, in a shock loader comprising a vehicle, of a shock-lifter member mounted to swing outwardly therefrom, a guide comprising a shock-rest pivotally mounted on said member, means for securing said member and guide in longitudinal line with each other, and means for maintaining said guide in vertical position in relation to said swinging member.

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

JAMES B. SCHUMAN.

Witnesses:

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WALTER J. TINGLE.