No. 871,500. PATENTED NOV. 19, 1907.

A. N. HADLEY.

PORTABLE FIELD DERRICK.

APPLICATION FILED JAN. 18, 1904.

2 SHEETS—SHEET 1.

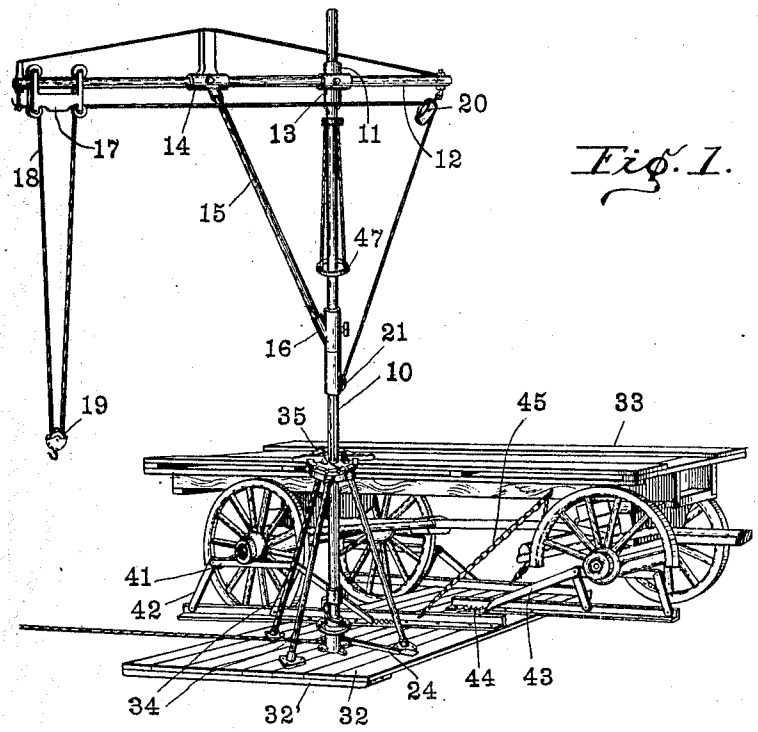


Fig. 1.

Fig. 5.

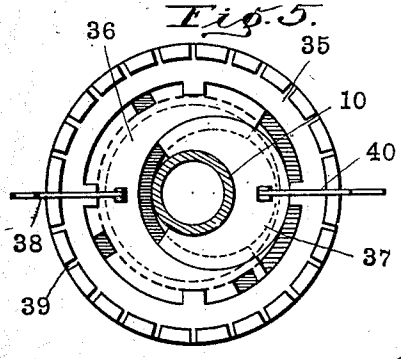


Fig. 4.

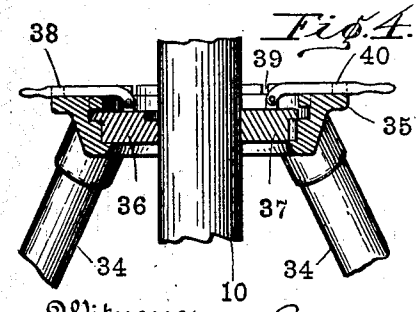
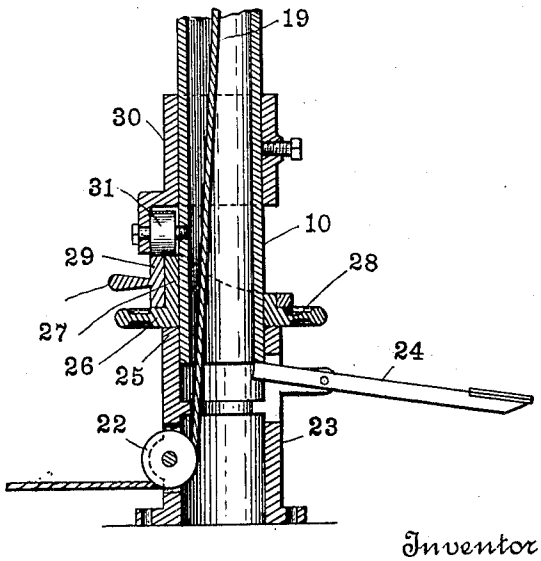


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 2.

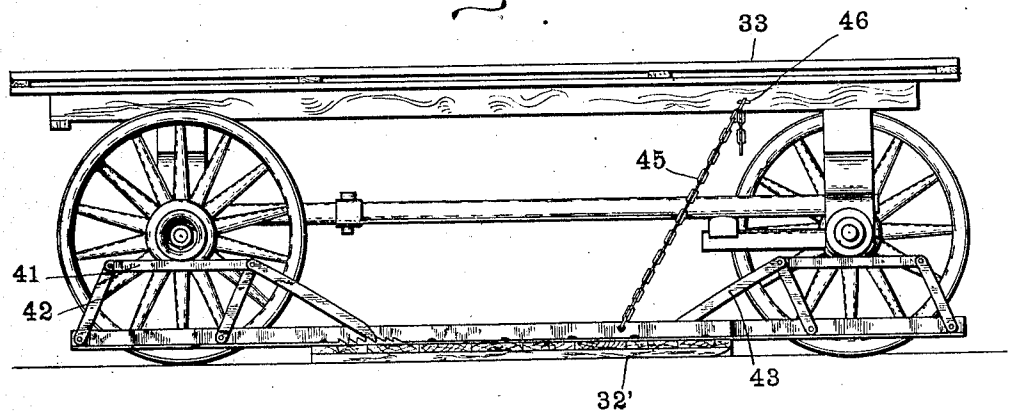


Fig. 6.

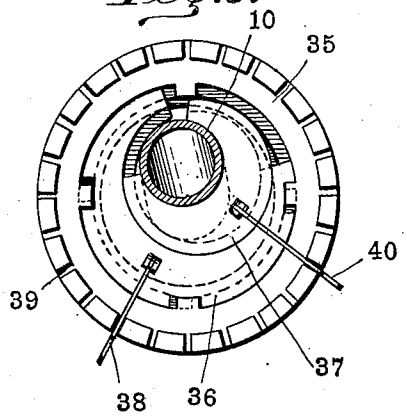
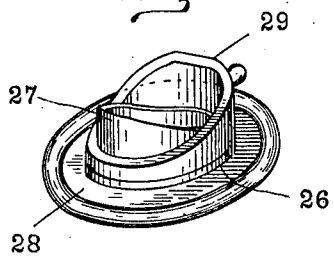


Fig. 7.



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UNITED STATES PATENT OFFICE.

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PORTABLE FIELD-DERRICK.

REISSUED

No. 871,500. Specification of Letters Patent. Patented Nov. 19, 1907.

Application filed January 18, 1904. Serial No. 189,619.

To all whom it may concern:

Be it known that I, ARTEMUS N. HADLEY, 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 Portable Field-Derricks, of which the following is a specification.

The object of my invention is to produce a cheap, yet efficient device by means of which shocks of corn, other crops or material may be easily lifted from the ground to a vehicle, or vice versa, the arrangement being such that while the loaded vehicle is driven to a distant point to discharge its load, the apparatus may be left in the field and attached to another vehicle and used for loading the same, the arrangement also being such that the apparatus may be easily transported from place to place by the vehicle to which it is attached.

Figure 1 is a perspective view of one form of my apparatus. Fig. 2 is a side elevation of the vehicle and the platform which supports the derrick. Fig. 3 is a detail vertical section of the support for the lower end of the mast. Fig. 4 is a similar detail of the intermediate support by means of which the vertical position of the mast may be adjusted. Fig. 5 is a plan of the parts shown in Fig. 4 in one position of adjustment; Fig. 6 a similar view of the parts shown in Fig. 4 in another position of adjustment; and Fig. 7 a perspective detail.

In the drawings, 10 indicates a suitable derrick mast to which is secured near its upper end a tee-fitting 11 through the transverse portion of which is passed a cross-arm 12 said cross-arm being adjustable transversely through the fitting and held in any desired position by a suitable bolt 13. Arm 12 also passes through a fitting 14 which is carried at the upper end of diagonal bar 15 the lower end of which is stepped in a fitting 16 secured to the mast 10. Mounted upon one end of the cross-arm 12 is a suitable carriage 17 which is adapted to be rolled upon the cross-arm. Secured to the outer end of cross-arm 12 is one end of a cable 18 which passes from thence over a suitable guide or pulley carried by carriage 17 thence down through block 19 thence up over a second suitable guide carried by carriage 17, from thence to a block 20 attached to the opposite end of arm 12, from thence downward over a suitable pulley 21 into the interior of mast 10 and thence downward and out at the lower end of mast 10 around a suitable pulley 22 mounted in a step-bearing 23 the cable being thence passed preferably to the rear so that a horse or other draft device may be attached thereto. Mast 10 is stepped within the casing 23 and is both rotatable and axially movable therein, a suitable foot-lever 24 engaging the lower end of mast 10 for a purpose which will appear. Resting upon the upper roughened end 25 of the casing 23 is a rotatable collar 26 carrying a cam-shaped annular flange 27 which surrounds mast 10. Resting upon the upper roughened end 28 of collar 26 is a second collar 29 which is similarly cam-shaped to correspond with the flange 27. Secured to mast 10 is a fitting 30 which carries a horizontal roller 31 adapted to rest upon flange 27 and collar 29 and thus support the weight of the mast 10 and its attached parts. Step-bearing 23 is mounted upon a suitable platform 32 which is adapted to lie transversely beneath the vehicle 33 and erected from said platform 32 is a suitable tripod 34 which carries a ring 35 through which mast 10 passes. Rotatably mounted within ring 35 is a crescent 36 which embraces mast 10 and rotatably mounted in crescent 36 is a second crescent 37 through which mast 10 also passes. Crescent 36 may be held in any angular position by a suitable latch 38 which may be thrown into any one of the notches 39 formed in ring 35, and crescent 37 may be similarly held in angular adjustment by means of a latch 40.

As previously stated, platform 32 is adapted to extend transversely beneath the vehicle 23 the arrangement being such that the wheels of the vehicle may pass over the platform when desired. In order to hold the platform and prevent the same from tipping while the vehicle is being loaded, I provide suitable bars 41 each of which is supported upon the platform by means of parallel links 42 and these bars 41 may be thrown up into engagement with the vehicle, as for instance, the axles or hubs, by means of brace bars 43 the lower end of each of which may take into a suitable ratchet 44 carried by the platform 32. In order to transfer the mechanism easily, suitable chains 45 are attached to the platform 32 and are arranged to be inclined forward and attached to suitable eyes 46 secured to the bed of the wagon 33 the arrangement being such that when the wagon is started forward the chains 45

will have a tendency to lift the platform 32 slightly from the ground and drag it along beneath the wagon. Suitable runners 32′ are placed beneath the platform 32.

In order to enable the operator to intelligently use the adjusting crescents 36 and 37 in bringing the mast 10 to its proper substantially vertical position, I provide a plumbing ring 47 which is slightly larger than mast 10 and embraces the same, and is suspended in position by three chains which are attached to mast 10 near its upper end.

In operation, wagon 33 is driven over platform 32 until it lies transversely beneath the wagon between the wheels. The chains 45 are then attached to eyes 46 said chains being of such length that, when the wagon starts forward the platform will not lag far enough behind to be caught by the rear wheels. The bars 41 are then dropped and the apparatus is driven into the field. When it has arrived at a point near the shock to be lifted, bars 41 are thrown up into engagement with adjacent points of the wagon, and crescents 36 and 37 are adjusted until mast 10 stands substantially plumb as indicated by plumbing-ring 47. Collar 26 and ring 29 are then adjusted upon the upper end of the casting 23 until the highest point thereof will lie in such position that roller 31 will be upon that point when the mast is swung so as to bring the lifting end of cross-beam 12 into position adjacent the shock to be lifted. The shock is then attached to block 19 and lifted by a proper pull upon cable 18. As soon as this is done a slight pull or shove upon the shock turns mast 10 and pulley 31 rides down an incline formed by flange 27 and collar 29 into the crotch, the swing of the mast 10 being accomplished by the weight of the shock and the swing being sufficient to throw the shock around over the wagon-bed upon which it may be readily deposited. The foot-lever 24 is convenient for lifting mast 10 in order that ring 26 and collar 29 may be readily adjusted. The apparatus may be moved from place to place until a load is obtained whereupon chains 45 may be disconnected and the loaded wagon driven away from the platform and while it is being driven to a point at which the load is to be discharged, another wagon may be driven into position over the platform and the operation repeated. By this means a single loading apparatus may be used with a number of wagons in succession.

It will be readily understood that the form of platform 32 and the details of construction of the mast and lifting apparatus may be varied without departing from the broad spirit of my invention.

I claim as my invention.

1. In a loading apparatus, the combination with a mast and lifting apparatus carried thereby, of a self-supporting support for said mast adapted to project beneath a vehicle and over which the vehicle may run, and means for detachably connecting said support to the vehicle whereby it may be transported.

2. In a loading apparatus, the combination with a support adapted to extend beneath a wagon and rest upon the ground, of a mast supported on said support, lifting apparatus carried by said mast, and means carried by the support for engagement with the wagon, whereby the weight of the wagon may be applied to the support to prevent the same from tipping.

3. In a loading apparatus, the combination with a suitable support adapted to extend beneath a wagon, of a mast carried thereby, a lifting apparatus carried by said mast, and braces carried by the support, and means for throwing said braces upward into engagement with the wagon, for the purpose set forth.

4. In a loading apparatus, the combination with a suitable support, and a substantially vertical mast rotatably mounted thereon, of a pair of cam-collars 27 and 29 surrounding said mast and supporting the same for the purpose set forth.

5. In a loading apparatus, the combination with a suitable support and a substantially vertical mast mounted thereon, and capable of both angular and axial movement thereon, means for normally producing axial movement of the mast upon rotary movement thereof, and means for adjusting the vertical angle of the mast.

6. In a loading apparatus, the combination with a suitable support and a substantially vertical mast mounted thereon, and capable of both angular and axial movement thereon, means for normally producing axial movement of the mast upon rotary movement thereof, and other means for engaging the mast and preventing axial movement thereof.

7. In a loading apparatus, the combination with a suitable support and a substantially vertical mast rotatably mounted thereon, of means for adjusting the vertical angle of said mast, and an annulus surrounding said mast and loosely suspended from an upper portion of the mast, whereby it will serve as an indicator to indicate the vertical position of the mast.

In witness whereof, I, have hereunto set my hand and seal at Indianapolis, Indiana, this twelfth day of January, A. D. one thousand nine hundred and four.

ARTEMUS N. HADLEY. [L. S.]

Witnesses:
ARTHUR M. HOOD,
JAMES A. WALSH.