

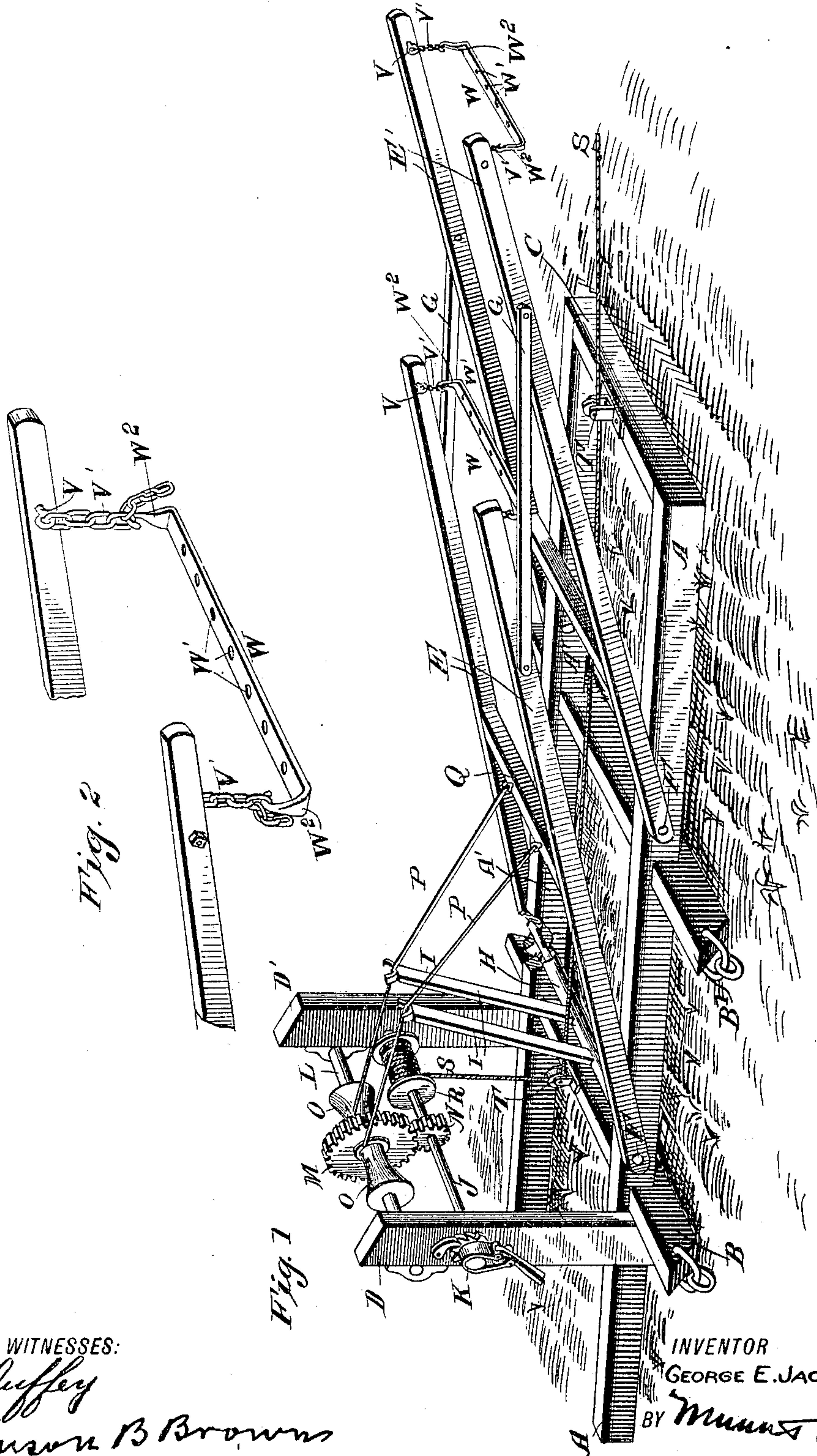
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PATENTED DEC. 19, 1905.

G. E. JACKSON.

WAGON UNLOADER.

APPLICATION FILED FEB. 8, 1905.



WITNESSES:
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GEORGE EDWIN JACKSON, OF SIGOURNEY, IOWA.

WAGON-UNLOADER.

No. 807,827.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed February 8, 1905. Serial No. 244,806.

To all whom it may concern:

Be it known that I, GEORGE EDWIN JACKSON, a citizen of the United States, residing at Sigourney, in the county of Keokuk and State of Iowa, have invented certain new and useful Improvements in Wagon-Unloaders, of which the following is a specification.

This invention relates to means for unloading a wagon in bulk, or, more definitely stated, an apparatus or device whereby the body of a wagon may be lifted from its running-gear and when lifted its contents be dumped in bulk into a hopper or storage receiver.

The object had in view is to provide a simple, novel, and improved apparatus or device adapted for the purpose stated, which shall not only be adapted to be readily moved as occasion may require, but operated in a simple way, as by the horse-power or team pulling the wagon being unloaded.

The invention consists of the special construction, arrangement, and combination of parts hereinafter fully described, shown in the accompanying drawings, and specifically pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my improved wagon-unloader, and Fig. 2 is a detail perspective view of the upper end of the masts and their sling attachments.

In the practice of my invention I employ two base-frames A A', mounted on transversely-arranged runners B B'. The runners are located nearer one end of the base-frames A A', as shown in Fig. 1, which end in practice is the rear end of the apparatus or device. It is intended to connect the forward ends of the base-frames A A' by means of a suitable cross-piece C, and, if desired, their rear ends may likewise be connected; but the same is not so illustrated in my drawings.

DD' denote suitable standards located, preferably, near the runner B, and with one thereof at opposite sides of the base members or frames A A'.

In further carrying out my invention I employ two sets of masts or beams E E' suitably hinged or pivoted, as indicated at F, to the base-frames A A'. The forward set of masts or beams E' is located on the base frames or members A A' about midway of their length, and the rear set thereof has support near the rear end of the base-frames, located substantially as shown. The masts

EE' are connected by bars G, and the point of their attachment to the masts E is intended to be suitably below the similar attachment to the masts E'. The object of connecting the two sets of masts as just described is to compensate for differences of their leverage or lifting power and which will be understood from the following description.

At the lower ends of the masts E and on the frames A A', I suitably journal a transversely-disposed beam H. Arms I are rigidly secured to the beam H, and their upper ends are made forked, as shown. The beam H should be free to turn for the purpose as will appear farther on.

J denotes a shaft supported at its ends in suitable bearings on the standards D D'. One end of the shaft is made projecting, adapted for application thereto of any well-known braking appliance and locking means K.

Above the shaft J, I arrange a shaft L, having suitable support on the standards D D'. The shaft L is provided with a gear-wheel M, whose teeth are arranged in mesh with similar teeth of a pinion or smaller gear-wheel N on the shaft J. Drums O are arranged on the shaft L, with one thereof at opposite sides of the gear-wheel M. The drums O are constructed with a substantially concave winding-surface and are enlarged toward their outer ends, as shown. It is intended that their smallest winding-surface be near the gear-wheel M, as shown, and whereat one end of each rope P is secured by suitable means. The other ends of the ropes are secured to a transverse beam Q, connecting the two masts E.

The arms I are intended for providing supports for the ropes P, and they should be sufficiently long to hold them above direct line between the drums O and the beam Q on the masts E when the latter are lowered. Direct pull of the ropes when being wound on the drums is thus obviated and increased lifting power of the masts thereby effected.

A drum R is arranged on the shaft J, and from whence I lead a rope S through swiveled or other suitable pulleys T on the runner B and the cross-piece C at the forward end of the base-frames A A'.

On the upper inner ends of the masts E E', I arrange eyebolts or other suitable devices V, from which depend short lengths of chains V'. These chains are intended to support a sling W, constructed of bar-iron having there-

through suitable openings W'. It will be noticed that the ends of the bar of iron are bent and provided with hooks adapted for engagement with the chain-links, and whereby support to the sling may be adjusted as required.

Relative to the arms I, hereinbefore described, it is designed that when they are standing at upright position their upper forked ends shall be just below the ropes P—that is, when the “masts” or “derricks,” as they may be termed, are elevated to upright position. It is obvious with such arrangement that when the masts or derricks are lowered the ropes P will be carried down into the forked upper ends of the arms I and through frictional engagement effect swinging action of the arms, adjusting them forward and downward to position about half-way between the drums O and the beam Q on the masts E. The position of the parts just described are illustrated in the main view of Fig. 1 of my drawings.

The runners B B' facilitate sidewise adjustment of the unloading device, and the same may be readily accomplished by horse or other power applied to clevis devices on the runner ends.

It is intended that the opposite masts or beams in each derrick or set thereof should be spaced apart, adapted to lie when they are lowered on opposite sides of the wagon to be unloaded.

In the use of my invention the wagon is backed to position with its rear axle sufficiently under the upper or sling end of the derricks or masts, the latter having been properly lowered, as will be understood. Now with the wagon in position for unloading action the slings W are arranged under its body and connected with the masts or derricks by engagement of their hooked ends W² with suitable links in the chains V'. The slings may be secured to the wagon-body by bolts or other devices entered through the openings W' in the slings. The derricks or masts being attached to the wagon-body as just described and the forward end of the rope S being connected with steam or other similar power means or by draft of the team of horses at hand, the rear end of the rope S will, by its unwinding action, impart rotation to the shaft J and through the pinion N and gear-wheel M effect winding-up action of the ropes P on the drums. Winding of the ropes P being started at the less diameter of the drums O through increasing size or diameter thereof toward their outer ends, increased power is had when starting lifting action of the masts and increased speed applied thereto as the ropes are outwardly wound on the drums—that is, toward the ends thereof.

It is apparent that with my invention the wagon-body may, by means of the lifting device shown and described, be lifted or elevated from its running-gear, and its entire

load effectively dumped into a suitable receiver or hopper near the rear end of the unloader.

It will be understood that forward dumping action of the wagon-body may be had by simple relative arrangement of the two sets of masts, the same being comprehended in the scope of my invention.

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

1. The combination in a lifting device, of a base, two sets of masts with the masts in both sets thereof spacedly arranged and having hinged support on the base, slings at the upper ends of the masts, means connecting the sets of masts, and power connecting means for operating the masts, substantially as described.

2. The combination in a lifting device, of a base supported on runners, two sets of masts operatively connected, the masts of both sets being spacedly arranged and having hinged support on the base, slings at the upper ends of the masts, means connecting the two sets of masts, and power connecting means for operating the masts, substantially as described.

3. The combination in a lifting device, of a base, two sets of masts, with the masts in both sets thereof spacedly arranged and having hinged support on the base, detachable slings at the upper ends of the masts, means operatively connecting both sets of masts, a suitably-supported windlass or drum and means operatively connecting the masts therewith, and power connecting means for operating the masts, substantially as described.

4. The combination in a lifting device, of a base, two sets of masts, with the masts in both sets thereof spacedly arranged and having hinged support on the base, adjustable slings connecting the upper ends of the masts of each set thereof, means operatively connecting both sets of masts, a suitably-supported windlass or drum having rope connection with the masts, a free prop whereby in operation, to support the rope above direct line between connection of the ropes' ends, and means wherethrough power may be applied for operating the masts, substantially as described.

5. The combination in a lifting device, of a base, two sets of masts having operative connection, the sets of masts being hinged at their lower ends to the base and spacedly-located, slings at the upper ends of the masts, a suitably-supported windlass or drum having rope connection with the masts, a counter-shaft having a rope-drum thereon, gearing for rotatably connecting the two shafts, and a rope extending from the counter-shaft drum to a suitable location adapted for application thereto of power, substantially as described.

6. The combination with a lifting device employing two sets of hinged and spacedly-arranged and connected masts, and means for

operating, and the application of power to the masts, of slings at the upper ends of the masts of each set thereof, the slings consisting of a bar and attachable means therefor, depending
5 from the masts' upper ends, substantially as described.

7. The combination with a lifting device employing two sets of hinged and spacedly-arranged and connected masts, and means for
10 operating, and the application of power to the

masts, of a bar having bent hooked ends, and suitable lengths of chain secured to the upper end of the masts, adapted for holding engagement of the bar's hooked ends, substantially as described.

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Witnesses:

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