

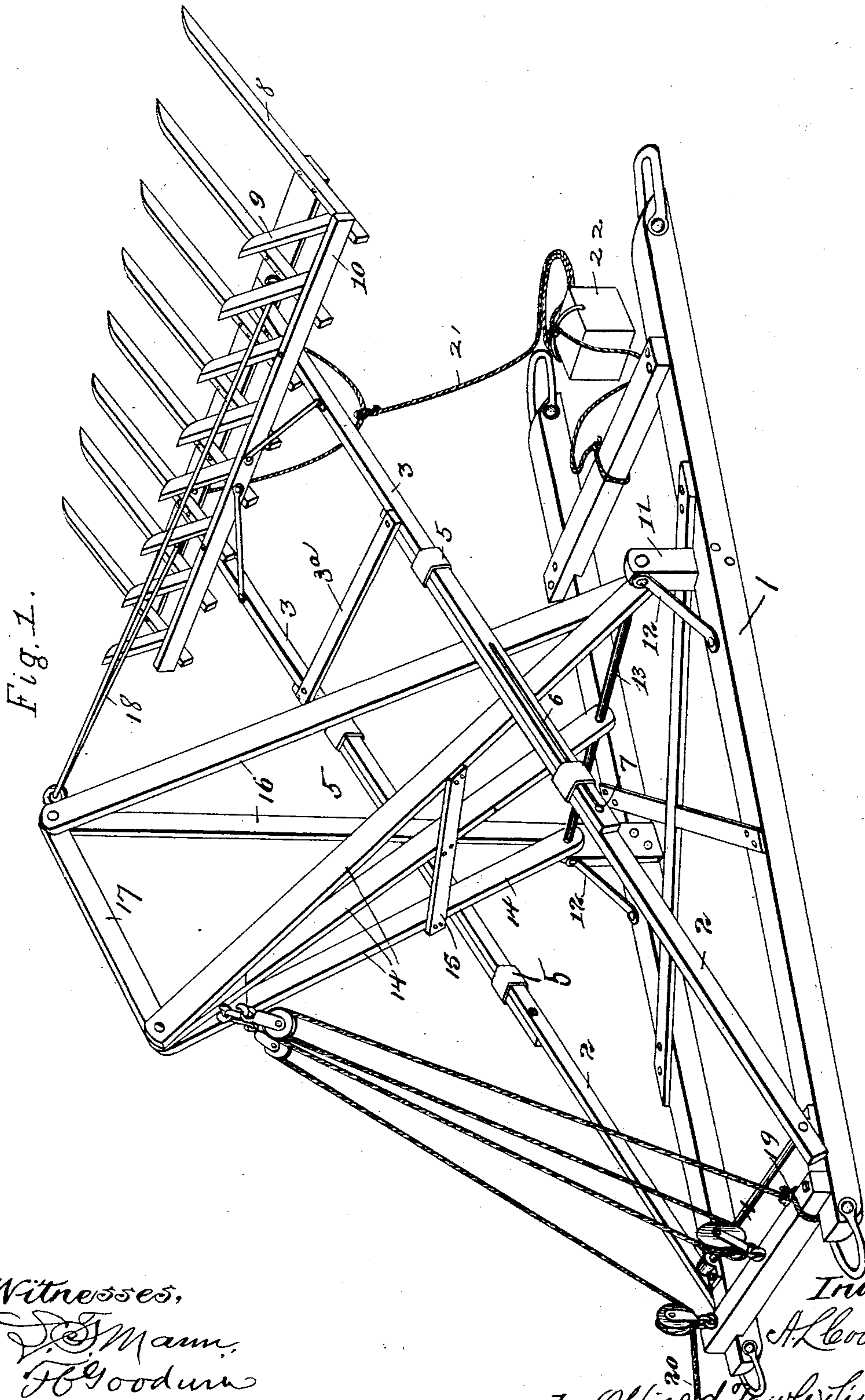
(No Model.)

2 Sheets—Sheet 1.

A. L. COURTRIGHT.  
HAY RICKER OR LOADER.

No. 520,180.

Patented May 22, 1894.



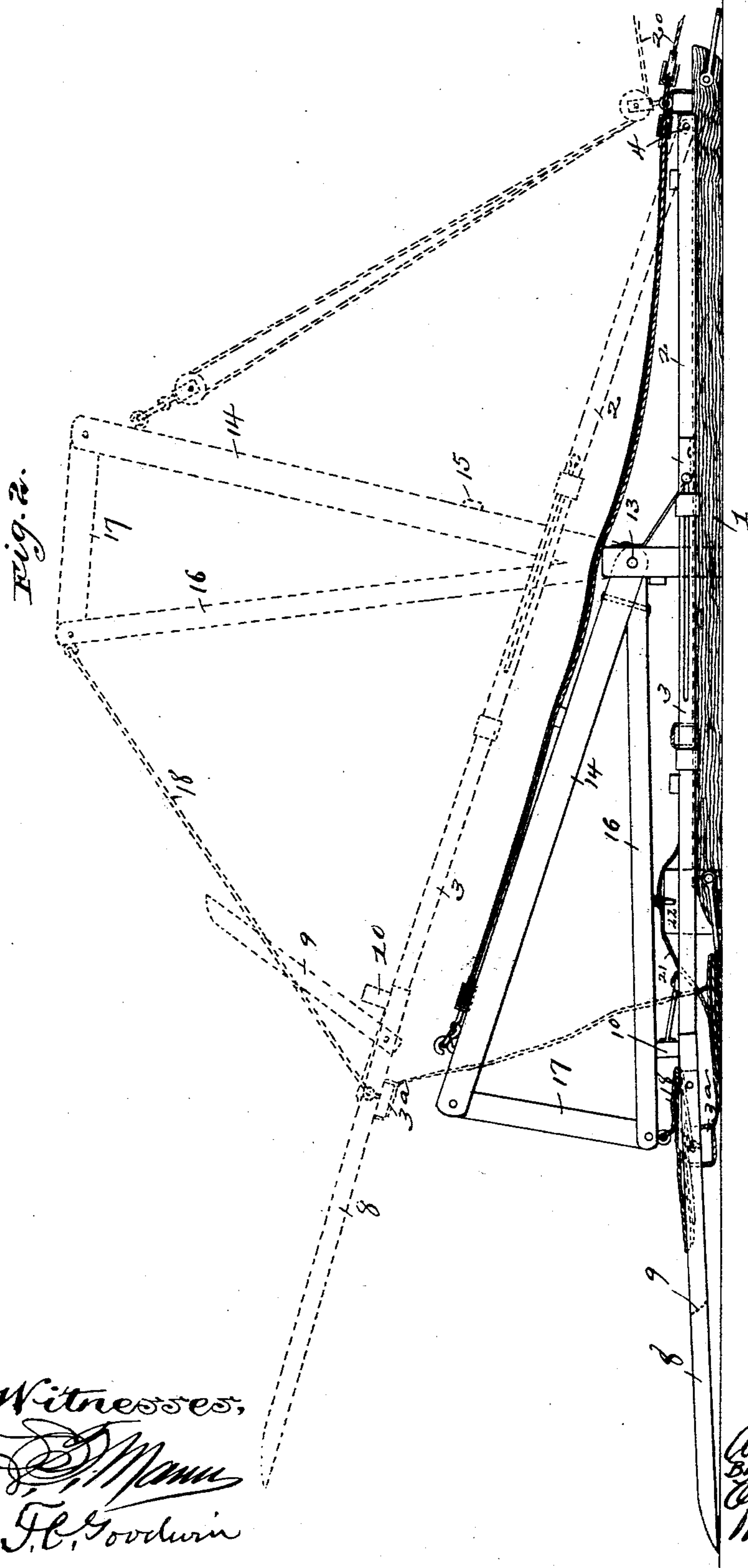
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Witnesses,  
*[Signature]*  
J. C. Goodwin

Inventor,  
Archibald L. Courtright  
By  
Offield, Towle & Luthrum  
*[Signature]*



# UNITED STATES PATENT OFFICE.

ARCHIBALD L. COURTRIGHT, OF KEOKUK, IOWA.

## HAY RICKER OR LOADER.

SPECIFICATION forming part of Letters Patent No. 520,180, dated May 22, 1894.

Application filed June 23, 1893. Serial No. 478,648. (No model.)

*To all whom it may concern:*

Be it known that I, ARCHIBALD L. COURTRIGHT, of Keokuk, Iowa, have invented certain new and useful Improvements in Hay Rickers or Loaders, of which the following is a specification.

This invention relates to a hay ricker and loader of improved construction; and the object of the invention is to produce an implement of this character which shall be rigid in construction so as to adapt it for handling heavy loads and in which the fork can be brought from the receiving to the discharging position with a shorter range of movement of the pivoted derrick than in previous constructions, and in which also the fork frame is capable of extension so as to adapt it for use with stacks or loads of increasing height.

To this end my invention consists in certain features of construction and combinations of parts as hereinafter described and particularly pointed out in the claims.

Figure 1 is a perspective view showing the fork frame partially raised, and Fig. 2 is a side elevation showing the machine folded for transportation, the dotted lines showing a secondary position of the movable parts.

In the drawings 1 represents a supporting or base frame of rectangular form, which in use lies upon the ground or may be mounted upon a wagon, and which is moved about from place to place as occasion requires. The fork frame is pivotally connected to one end of this base, and in the present construction said fork frame is composed of the adjustable side arms 2—2, 3—3, the arms 2—2 being pivotally mounted on the rod or shaft 4 carried by the base frame. The arms 2—2 and 3—3 are adjustably or slidably connected together, their ends being overlapped and adapted to slide through the keepers 5. The arms 3 are also preferably slotted, as at 6, and the arms 2 have the headed bolts 7, the bodies of which work in said slots and form stops to limit the movement in adjusting them, while nuts on the bolts provide means for securing the arms in the adjusted position. At their outer ends the arms 3 are rigidly connected to a cross piece of the fork, which latter has teeth 8 and the pivoted standards 9 which take their bearing upon the beam 10 carried by and suitably braced over the arms 3—3.

11 represents short uprights which are formed upon and rise from the base at a suitable point between its ends. Said uprights are supported by the braces 12 and have the fixed shaft 13 upon which is pivoted the derrick. Said derrick consists of a triangular frame composed, in the present instance, of five upright pieces, three of them marked 14 being perforated at their lower ends for the passage therethrough of the shaft 13 and converged toward their upper ends and suitably stayed by a cross piece 15.

16 represents two upright braces which are secured rigidly at their lower ends to the uprights 14 and are converged toward each other at their upper ends. The upper ends of the uprights 14, 16 are connected by a short beam or bar 17, and the entire derrick is therefore triangular both in its side and front elevation, its base being spread transversely and its top longitudinally of the base. The fork frame is connected to the front end of the derrick frame by means of the rod or cable 18, and the derrick frame is connected with the base behind the pivot of the fork frame by the blocks and tackle, one end of the rope being made fast, as at 19, and the leading end of the rope being marked 20.

21 represents a stay cable for limiting the movement of the fork frame and it may be provided with a weight box 22.

In operation when the fork has received its load, the leading end of the cable is drawn thus swinging the derrick frame back and raising the fork. When the derrick frame has been drawn back to a position wherein its upper end approaches the vertical, or when it has swung through an arc of, say, one hundred and twenty degrees, the fork frame will be brought to a vertical position and the load may then be discharged. The range of movement it will be observed is shorter than if the derrick post were pivoted directly to or in the plane of the base frame instead of in the plane above said base as in the present construction, and the range of movement is also shorter on account of constructing the said derrick frame in the particular manner described, wherein the point of attachment of the fork frame to the upper end of the derrick frame by means of the cable and the point of attachment of the tackle to said derrick frame are



separated. The particular construction of the derrick frame also renders it very rigid and able to sustain itself in operation when working with heavy loads.

5 I claim—

1. In a ricker or loader, the combination with the base, of a fork pivotally connected to said base near one end thereof, standards rising from said base intermediate its ends, a  
10 derrick frame pivotally supported upon said standards and consisting of members diverging or spread apart longitudinally of the base toward their upper ends and their lower ends spreading laterally with reference to the base,  
15 a beam or bar connecting the upper ends of the derrick members, a flexible connection between the upper end of the derrick and the fork frame, and an operating tackle for swinging the derrick frame and thereby elevating  
20 the fork frame, substantially as described.

2. In a hay ricker or loader, the combination with the base, of a fork frame pivotally mounted upon the base near one end thereof, standards rising from said base intermediate  
25 its ends, braces for said standards, a shaft supported by said standards, a derrick frame pivotally mounted on said shaft and composed of two sets of uprights separated at

their upper ends, a beam or bar connecting said separated ends, a flexible connecting me- 30  
dium between the upper end of said derrick frame and the fork frame, and an operating tackle also connected to the derrick frame, substantially as described.

3. In a hay ricker or loader, the combina- 35  
tion with the base, of a fork frame pivotally connected to said base near one end thereof, standards rising from said base intermediate its ends, a derrick frame pivotally supported upon said standards and comprising members 40  
diverging or spread apart longitudinally of the frame at their upper ends, said members also spreading laterally from each other at their lower ends, a beam or bar connecting the upper ends of the derrick frame members, 45  
a flexible connection between the fork frame and the derrick frame, and an operating tackle for swinging the derrick frame and thereby elevating the fork frame, the fork frame having its side arms slidably connected 50  
together whereby it may be extended, substantially as described.

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Witnesses:

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