

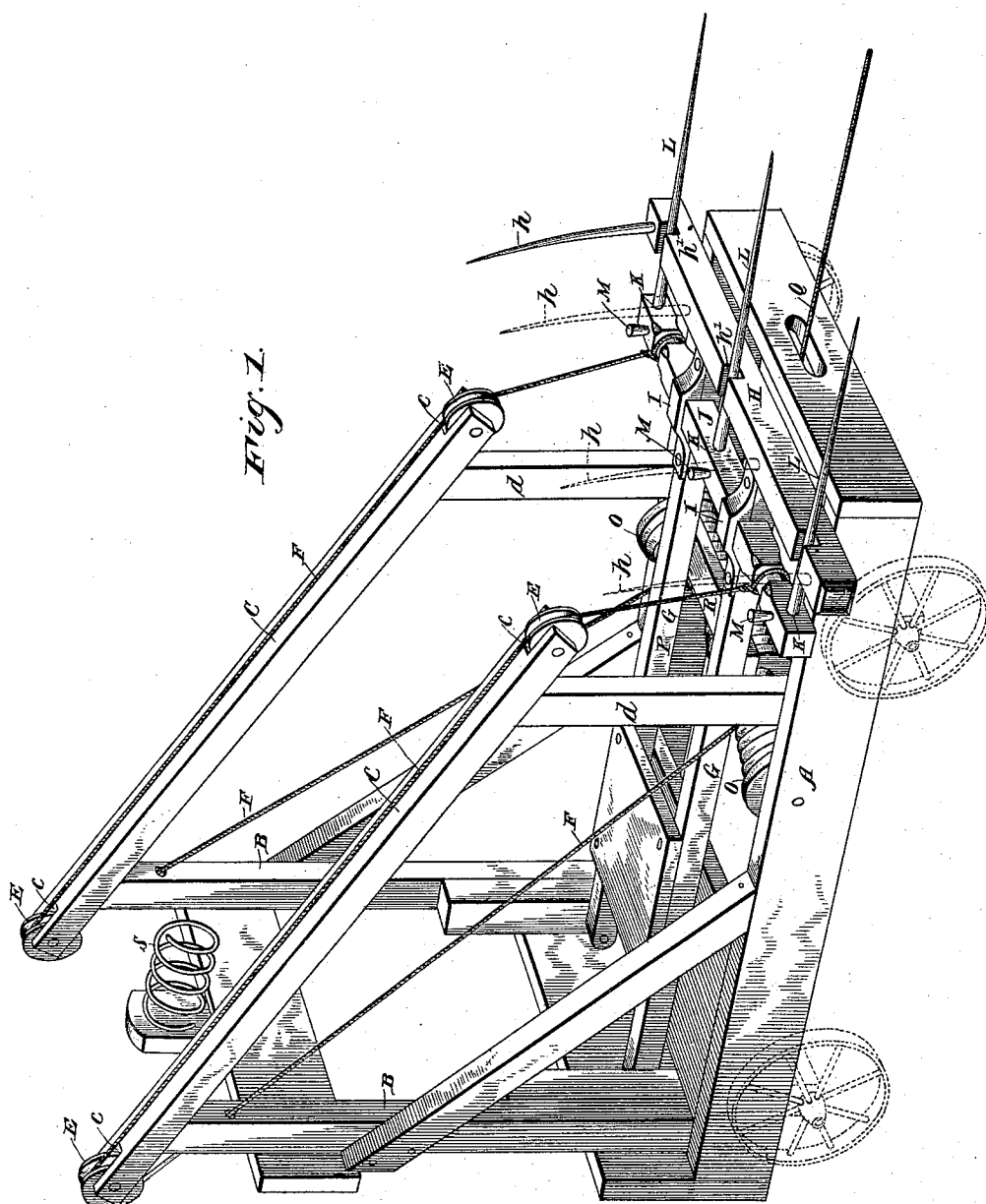
(No Model.)

2 Sheets—Sheet 1.

P. BURRELL.
HAY ELEVATOR.

No. 486,848.

Patented Nov. 29, 1892.



Witnesses;

J. M. Withers.
S. P. Wolchaster.

Inventor,

Presto Burrell,

By *his* Attorneys,

Chas. Snow & Co.

(No Model.)

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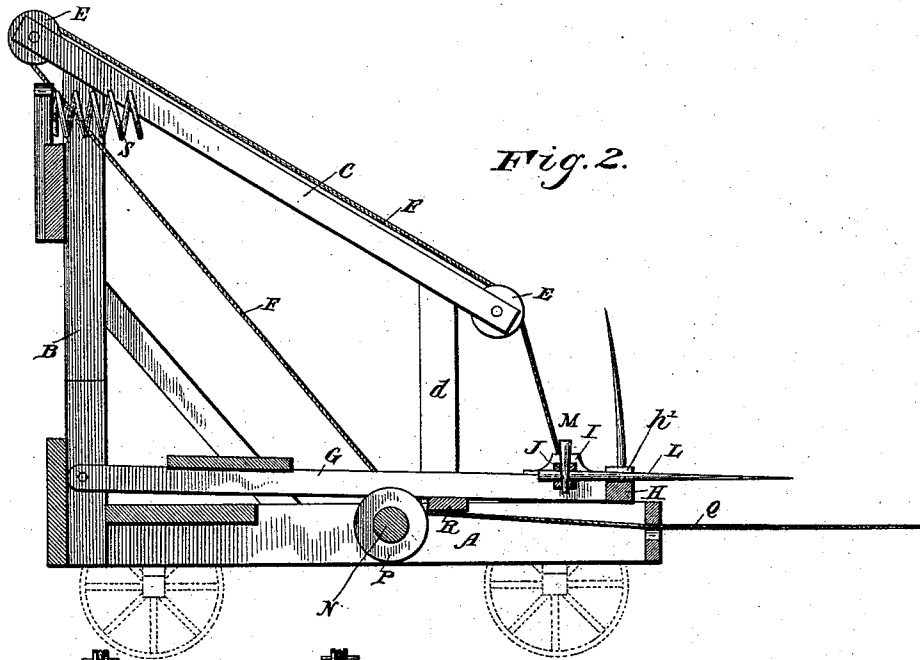


Fig. 2.

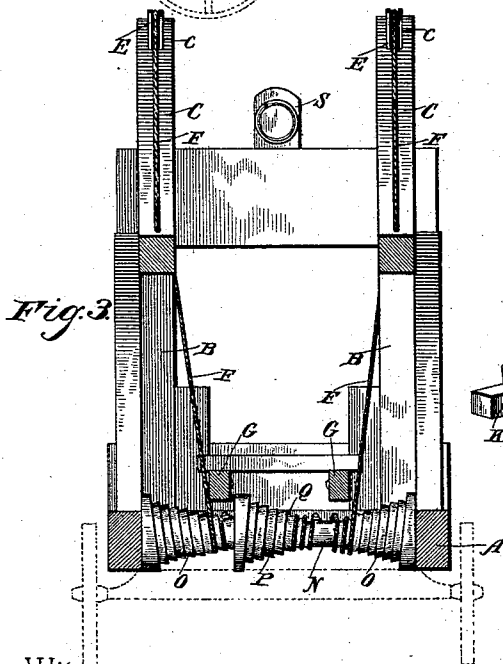


Fig. 3.

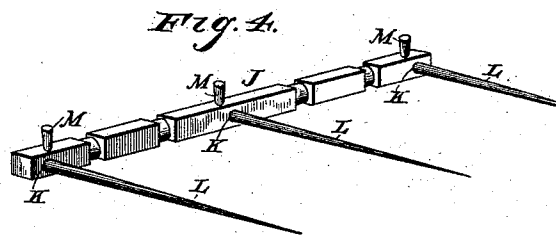


Fig. 4.

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PRESTO BURRELL, OF BLACKFOOT, IDAHO.

HAY-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 486,848, dated November 29, 1892.

Application filed June 20, 1892. Serial No. 437,397. (No model.)

To all whom it may concern:

Be it known that I, PRESTO BURRELL, a citizen of the United States, residing at Blackfoot, in the county of Bingham and State of Idaho, have invented a new and useful Hay-Elevator, of which the following is a specification.

This invention relates to elevators for hoisting purposes; and it has for its object to provide an improved elevator of this type particularly adapted for elevating and hoisting hay, but may be advantageously employed for lifting other objects in unloading.

To this end the main and primary objects of this invention are to generally improve upon elevators of this type and to particularly provide for the ready loading and automatic discharge of the load from the lifting devices of the elevator.

With these and many other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a perspective view of an elevator constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a vertical transverse sectional view through the central pulley-shaft. Fig. 4 is a detail in perspective of the turning or pivoted fork.

Referring to the accompanying drawings, A represents the rectangular base-frame of the stacker or unloading device, which may be mounted upon wheels, as illustrated in dotted lines in the several figures, or may be drawn on a sled, if found desirable. Arising from one end of said frame are the opposite end uprights B, to the upper ends of which are secured one end of the opposite inclined side bars C, the other and lower ends of which are supported upon the central shorter uprights D, arising from opposite sides of the frame. Each of said side bars C are provided with bifurcated ends *c*, in which are mounted the grooved guide-wheels E, over which pass the opposite hoisting-ropes F, which will be more particularly noted.

Pivoted at one end to the opposite end uprights D, near their lower ends, are the oppo-

site fork-arms G, to the outer ends of which, at the other end of the frame, is secured the transverse head-bar H, to which is secured the fixed head-tines *h*, and intermediate of said fixed tines is located a series of notches *h'*. Directly in rear of the head-bar H are located the opposite bearings I, upon the opposite swinging fork-arms G, and forming bearings for the turning or rotating fork-bar J, mounted to rotate in said bearings. The said fork-bar J is provided with a series of tine-openings K, within which are inserted the removable fork-tines L, which when inserted in said openings up to their inner ends are held securely therein by means of the wedge-keys M, passing through the fork-bar and at the sides of said tine-openings to hold the tines in place. Said tines when the load is thereon are designed to rest in the notches *h'*, forming the head-bar of the fork. One end of each of the opposite hoisting-ropes F is connected to opposite ends of the swinging fork-bar and passing over the lower and upper guide-wheels at each end of the inclined side bars are both connected at their other ends to the intermediate operating-shaft N. The said shaft N carries the opposite reversely-disposed grooved cone-pulleys O, to which are connected the ends of said hoisting-ropes and around which the same are wound when the fork is being elevated. Intermediate of said opposite cone-pulleys O is the central or intermediate operating cone-pulley P, to which is secured and from which unwinds the draft-rope Q, to one end of which is hitched a team for the purpose of turning the pulley-shaft to elevate the fork, which when reaching a vertical position at one end of the frame is designed to discharge its load. When reaching such point, a strike-plate R, secured to said fork-arms, is designed to strike the buffer-spring S, supported between the end uprights, so as to ease the ascent of the fork and force the same from its perpendicular line, so it will descend to point of loading.

In operation the wagon, with the load, is driven close to the front end of the frame. The fork-arms are lowered and the removable tines are removed from their fork-bar and are run back through the holes in the fork-bar and into the load of hay, so as to take off as much of the whole load as the elevator will

stand. The tines are rekeyed in the bar and the team connected with the draft-hook, which operates the center pulley at the largest circumference and transmits power to the cone-pulleys on either side of the same, which will accordingly elevate the fork at an increasing speed. Inasmuch as the hoisting-ropes wind thereon in the grooves from the lowest circumference or the apex of the cone the fork passes over the lower end of the inclined side bars to its point of discharge, at which point, being in an almost vertical position, the turning fork member is relieved from the weight of the load and readily discharges the same onto the stack.

It will be readily apparent that when the load reaches the vertical position already noted the shock from the spring S will cause the fork-bar to automatically turn and free itself of the load, which it deposits on the stack, and owing to this freedom of movement the said fork-bar will spring back free from the load without any tangling of the hay thereon.

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

1. In an elevator, the combination, with the frame, of the fork-arms pivoted at one end of said frame and carrying a fixed fork-head at their other ends, a turning fork-bar mounted to rotate in rear of said fixed fork-head and carrying supporting-tines resting in said head, and means for raising and lowering said fork-arms, substantially as set forth.

2. In a hay-elevator, the frame, the parallel fork-arms pivoted at one end of said frame and carrying a fixed fork-head at their other ends, a turning fork-bar mounted to oscillate upon said fork-arms in rear of the head and provided with a series of tine-openings, tines removably secured within said tine-openings and resting in said fixed head when elevating, and means for raising said fork-arms, substantially as set forth.

3. In an elevator, the frame, a buffer-spring

located at one end of said frame, parallel fork-arms pivoted at one end below said buffer-spring, a notched fork-head secured to the other ends of said fork-arms, a fork-bar mounted to rotate upon said fork-arms in rear of the notched head and provided with a series of tine-openings, removable tines inserted in said openings, keys wedging said tines removably in said openings, a strike-plate secured to said fork-arms, adapted to strike said buffer-spring, and means for elevating the fork, substantially as set forth.

4. In an elevator, the frame, an operating-shaft journaled within said frame, opposite end uprights and intermediate uprights rising from said frame, inclined side bars secured to the upper ends of the uprights and carrying at each end grooved guide-wheels, swinging fork-arms pivoted to the end uprights and carrying a movable fork working over said inclined side bars, and hoisting-ropes connected with said movable fork, passing over the end guide-wheels of said side bars and connected to said operating-shaft, substantially as set forth.

5. In an elevator, the frame, a swinging fork mounted within said frame, an operating-shaft journaled within the frame and provided with opposite reversely-disposed grooved cone-pulleys and a separate and independent intermediate cone-pulley, opposite hoisting-ropes connected with the fork and winding and unwinding on said opposite cone-pulleys, and a single draft-rope winding and unwinding on the intermediate cone-pulley in an opposite direction to the winding and unwinding of said opposite hoisting-ropes on the opposite reversely-disposed pulleys, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

PRESTO BURRELL.

Witnesses:

T. M. STEWART,
JNO. W. JONES.