

(No Model.)

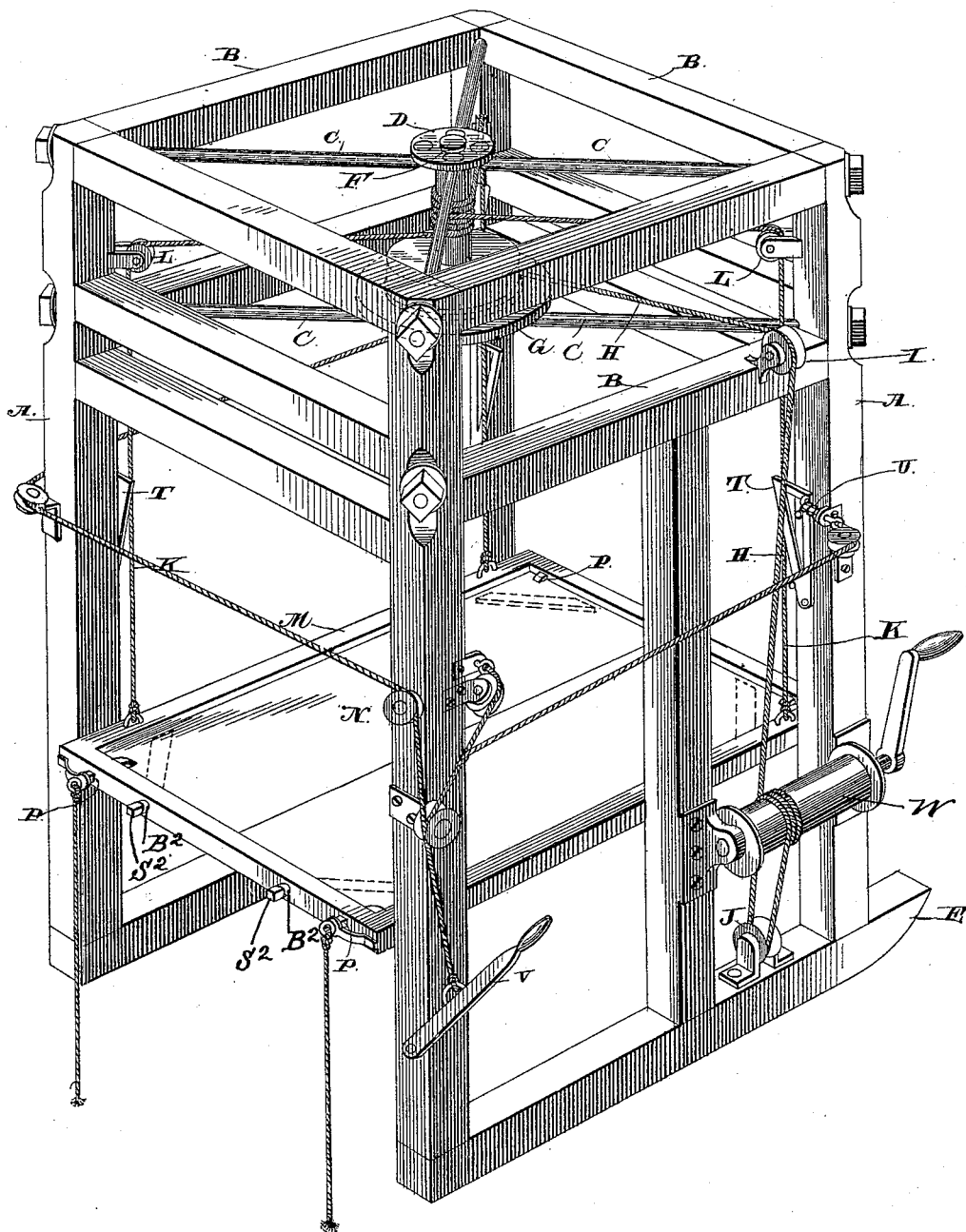
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C. F. HARMAN.  
LOADING APPARATUS.

No. 421,568.

Patented Feb. 18, 1890.

*Fig. 1.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

CHARLES FOURIER HARMAN, OF VALLEY FALLS, KANSAS.

## LOADING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 421,568, dated February 18, 1890.

Application filed October 23, 1889. Serial No. 327,937. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES FOURIER HARMAN, a citizen of the United States, residing at Valley Falls, in the county of Jefferson and State of Kansas, have invented a new and useful Loading Apparatus, of which the following is a specification.

My invention relates to improvements in loading apparatus; and it consists in certain novel features of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved apparatus. Fig. 2 is a detail vertical section of the upper end of the apparatus. Fig. 3 is a bottom plan view of the pan or hoisting-platform. Fig. 4 is a top plan view showing a different form of hoisting-platform. Fig. 5 is a detail view of one of the latches or catches for retaining the platform in a raised position.

The frame of my improved machine consists of the posts or standards A and the beams B, secured to the said posts and connecting the same, and the diagonally-disposed braces C, which are provided at their points of intersection with the castings D. To the lower ends of the posts I secure the runners E, so that the machine may be drawn from place to place. If so desired, however, these runners may be dispensed with and carrying-wheels substituted therefor. The main shaft F is journaled in and extends vertically between the castings D, and the drum or hoisting-wheel G is secured to this shaft at the lower end of the same. The hoisting-rope H is secured to this wheel and extends outward therefrom to a pulley I on one of the beams B, and then downward to a pulley J at the bottom of the device, and thence to a suitable motor, such as a windlass W.

The dumping platform or pan is supported by the ropes K, which are secured to the shaft F above the wheel G, so as to wind on the said shaft as the hoisting-rope unwinds from the wheel G, and thence extend over pulleys L in the corners of the frame and then downward to the dumping-pan. The pan is composed of a frame M, to which the lower ends of the ropes K are secured, and the leaves N, pivoted by bolts B<sup>2</sup> within the said frame, the outer ends of the bolts being angular, as at S<sup>2</sup>,

so that they may be engaged by a wrench to operate the leaves. At the corners of the frame M, on the under side of the same, I provide the braces or rods O, which serve as stops to prevent the leaves swinging downward at their outer sides and thus scattering the load. Catches or bolts P are arranged on the upper side of the frame at the corners of the same to engage the upper side of the leaf and prevent the premature dumping of the load.

In Fig. 4 I have shown a slightly-different form of dumping-pan, in which the leaves are hinged to the sides of the frame, and a roller or rock-shaft Q is journaled in the ends of the same and extends along the center thereof, being provided at one end with a crank-handle or operating-lever R. Ropes or cables S are secured to this rock-shaft and depend therefrom to the inner edges of the leaves, to which they are secured. It will be seen that by rotating the shaft Q in one direction the ropes S will be wound thereon and the leaves N be elevated to a horizontal position until their inner edges meet. By rotating the shaft in the opposite direction the leaves will be dropped and the load be dumped.

On the sides of the posts I pivot the latches T, which have inclined outer sides, and are normally projected into the path of the platform or pan by the springs U, arranged adjacent to the latches T and coiled upon arms T<sup>2</sup> of the latter, as shown most clearly in Fig. 5. A cord is secured to the outer end of each of these levers, and extends to an operating-lever V, arranged at the bottom of the machine, so that the latches may be withdrawn from under the platform when it is desired to lower the same.

In practice the dumping platform or pan is arranged in the bottom of the machine and the dirt or other material to be raised is thrown thereon by means of teams and common dirt-scrapers or otherwise until the capacity of the platform has been reached. The hoisting-rope is then drawn on by team, steam, or man power, so as to rotate the hoisting-wheel G and the shaft F, thereby winding the ropes K and raising the dumping pan or platform. When the platform has been raised to its highest point, its under side will be engaged

by the latches on the posts, and it will be thereby held in its raised position. A vehicle is then driven under the platform and the leaves are operated to dump the contents of the platform into the vehicle. The load is then carried to a suitable place of deposit and the platform lowered, after which the former operation is repeated.

It will be observed that my device is very simple in its operation, and is free of all complicated arrangements, so that the wear of the machine is reduced to a minimum.

The machine may be operated by a windlass driven by hand or by steam-power, or it may be operated by simply hauling on the hoisting-rope by horse-power, as will be readily understood. The platform will be raised steadily and evenly and without any unnecessary labor, as the cords secured thereto are attached near the corners thereof, and the strain thus evenly distributed.

The device is very simple, and its advantages are thought to be obvious.

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

1. The combination, with the frame, of the vertically-disposed shaft in the upper end thereof, the dumping platform or pan, the ropes extending from said platform or pan over suitable guide-pulleys to the vertical shaft, and means for rotating the said shaft, as set forth.

2. The combination, with the frame, of the vertically-disposed shaft in the upper end thereof, the hoisting-wheel secured on said shaft, the hoisting-rope wound on the said

wheel and extending from the side of the machine, the ropes secured to the shaft and wound thereon in a reverse direction to the hoisting-rope, and the dumping pan or platform secured to the lower ends of said ropes, as set forth.

3. The combination, with the hoisting mechanism, of the dumping-platform, consisting of an open frame, the leaves pivoted therein, the braces secured to the corners of the frame to prevent downward movement of the leaves at their outer ends, and the spring-latches mounted on the frame and adapted to engage the leaves to prevent upward movement thereof, as set forth.

4. The combination, with the frame, of the vertically-disposed shaft in the upper end thereof, the hoisting-wheel secured on said shaft, the hoisting-rope wound on the said wheel and extending from the side of the machine, the ropes secured to the shaft and wound thereon in a reverse direction to the hoisting-rope, and the dumping pan or platform secured to the lower ends of said ropes, the spring-actuated latches pivoted to the frame and adapted to engage the platform to hold it in its raised position, and a lever V, connecting by a rope or chain with the latches.

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

CHARLES FOURIER HARMAN.

Witnesses:

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