

JESSE NICHOLSON.

Improvement in Hoisting Apparatus.

No. 121,463.

Patented Dec. 5, 1871.

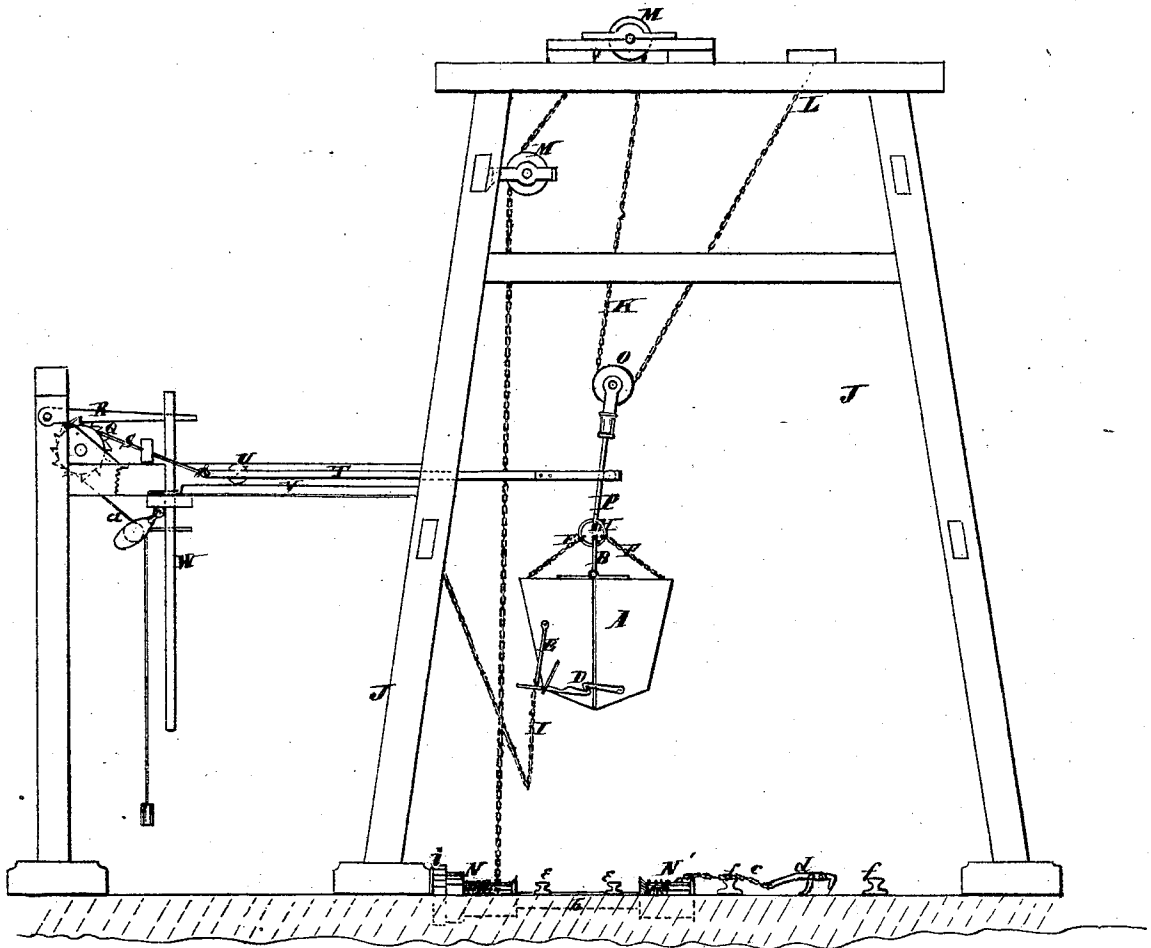


Fig. 1.

Witnesses:

Wm. F. Brown.

Thomas F. Turner

Inventor:

Jesse Nicholson

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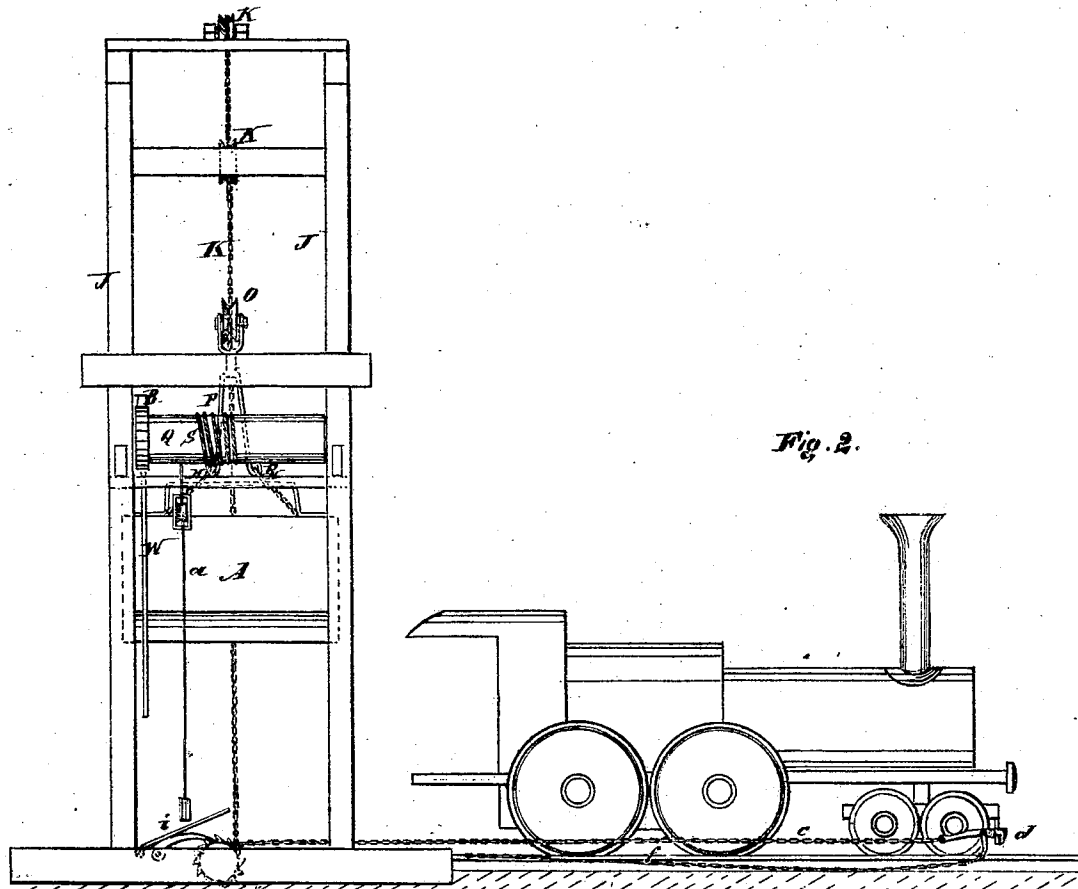


Fig. 3.

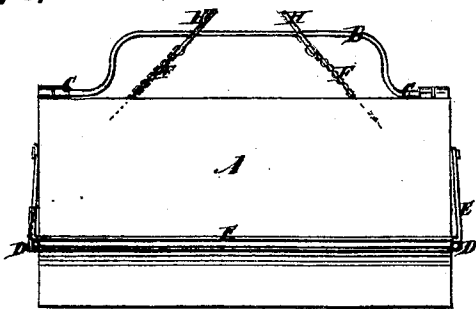
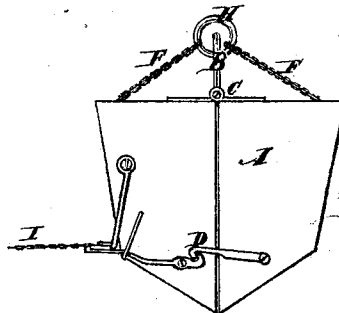


Fig. 4.



Witnesses:

Henry B. Parsons
Francis E. Warner.

Inventor:

Jesse Nicholson

UNITED STATES PATENT OFFICE.

JESSE NICHOLSON, OF MONTICELLO, INDIANA.

IMPROVEMENT IN HOISTING APPARATUS.

Specification forming part of Letters Patent No. 121,463, dated December 5, 1871.

To all whom it may concern:

Be it known that I, JESSE NICHOLSON, of Monticello, in the county of White and State of Indiana, have invented a new and useful Improvement in Apparatus for Loading Coal on Railway Cars, of which the following is a specification, reference being had to the accompanying drawing.

The object of my invention is to load locomotive-tenders, &c., momentarily upon their arrival at a station, thereby causing but a moment's delay; and my invention consists in the construction of the box in which the coal is hoisted and from which it is dumped into the tender; and it also consists in the combination of said box with the apparatus with which it is hoisted.

To enable those skilled in the art to understand how to manufacture and use my invention, I will describe the same with particularity, using the same letters to represent the corresponding parts in the different figures in the accompanying drawing, in which—

Figure 1 represents a side elevation of my hoisting apparatus with the coal-box attached; Fig. 2, an end elevation, with a locomotive hoisting the coal-box; Fig. 3, a side elevation of the box detached; and Fig. 4, an end view of the same.

A is the coal-box, which is made sufficiently large to hold coal enough to fill the tender. This box is made in two parts, each part being hinged at its top to the bail B by the hinges C. D are hooks for holding the box closed at the bottom when loaded, and E is a rod pivoted to the box so as to fall above the ends of one set of the hooks D, as clearly shown in Figs. 3 and 4, to prevent the hooks from unclasping. F F are chains extending from the rings H H to the sides of the box at or near its top; the bail of the box also passes through the rings. I is a chain, which is attached to the pivotal rod E, and is used to remove it from the ends of the hooks D when it is desired to dump the coal from the box, as hereafter described. J is a strong substantial frame, built over the railway track in such a manner that the box of coal can be hoisted and swung over the tender and its contents dumped into it, as hereafter described. K is the hoisting-chain for hoisting the coal. It is rigidly attached to the frame at L, and, passing over the pulleys M, is wound on the drum N. O is a loose pulley running on the hoisting-chain K, as shown. P are hooks suspended from this loose pulley, and are used to hook into the rings H H for hoisting the box. Q is a windlass, with a ratchet and pawl R to hold it at any desired

place. S is a rope, which is wound on said windlass. T is a rigid arm or piece passing around the hooks P to hold them in position when unhooked from the rings H H. One end of said rigid piece is attached to the rope S, and it is supported by the small roller U, which rolls out on a track, V, when the box is allowed to swing out over the tender, as hereafter described. W is a rod attached to the pawl R to operate it, and *a* is a rope attached to the windlass Q for the purpose of revolving it to and up the rope S and swinging the coal-box back to the position shown in Fig. 1. *b* is a shaft carrying two drums, N and N'. *c* is a chain that winds over the drum N', and *d* is a hook attached to said chain, to which the power is applied for hoisting the coal. *e e* are the railway tracks, and *f f* tracks for the trucks on which the coal-box is carried to be filled with coal and brought back, ready to be hoisted.

My apparatus operates as follows: The coal-box, being placed on a suitable truck, is filled with coal from a bin and rolled beneath the frame J. The hooks P are then hooked into the rings H H. When the locomotive comes upon the track *e e* to take on coal the hook *d* is hooked to the locomotive, and, as the locomotive moves along so as to bring the tender opposite the coal-box, the chain *c* turns the shaft *b* and raises the coal-box as high as the top of the tender. The hook *d*, just at that point, unhooks from the locomotive and the pawl *i* holds the coal suspended. The operator then raises the pawl R by means of the rod W attached thereto, and the coal-box swings out over the tender. The chain becomes taut as the coal-box swings out and raises the pivoted rod E, thereby releasing the hooks D so that they unlock, and the box swings open at the bottom and dumps the coal into the tender. The bail of the box, passing through the rings H H, takes the weight of the box from the chains F F just as they have opened the box sufficient to deposit the coal. The operator by then pulling the rope *a* turns the windlass Q and, by winding thereon the rope S, swings the coal-box back over its truck, when, by raising the pawl *i*, it drops upon the truck, winding up the chain *c* to elevate another load.

The hook *d* is so constructed that it is unhooked at any given point by means of a cord attached thereto. This hook is also of my invention, and is fully described in an application for a patent of even date herewith.

It will be observed that by having several of these coal-boxes, any number of locomotives can take coal from the same stand nearly as fast as

they can be driven up, but a slight delay being required. By constructing the box so that it swings open at the bottom it is necessary to raise it only as high as the top of the tender, and it will also fill the tender and even heap it full without spilling the coal.

Having described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The coal-box A when constructed in two

parts and hinged at the top, as and for the purpose described.

2. The combination of said coal-box and the hoisting apparatus above described, when constructed substantially as described and shown.

JESSE NICHOLSON.

Witnesses:

FRANCIS F. WARNER,
H. F. BRUNS.

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