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O. J. TRAVIS.

LOADER AND UNLOADER.

APPLICATION FILED JULY 27, 1905.

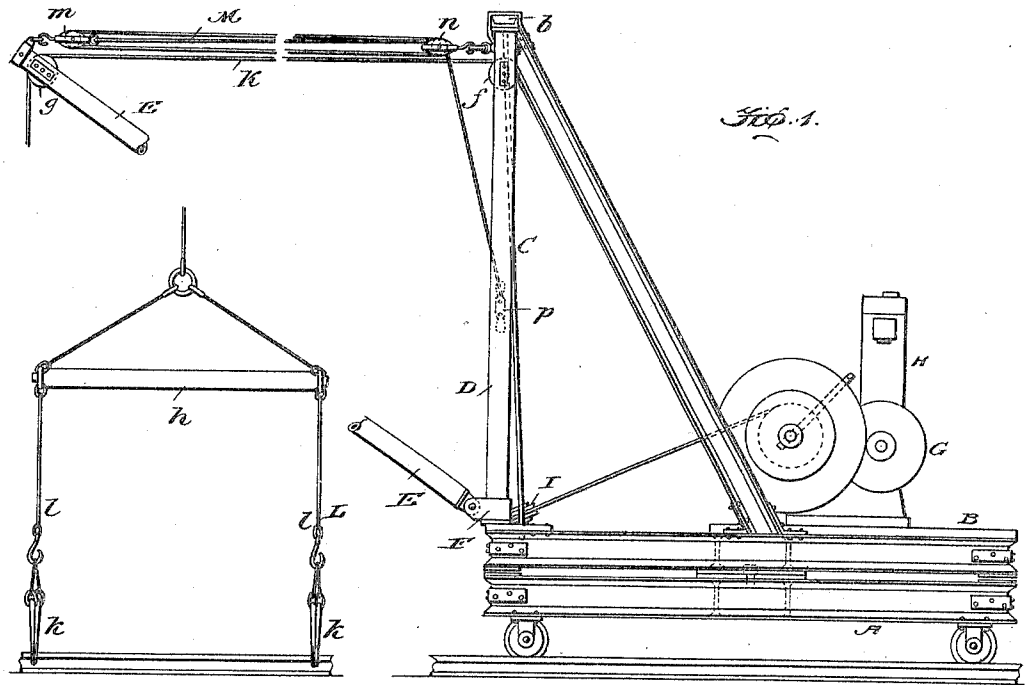


Fig. 1.

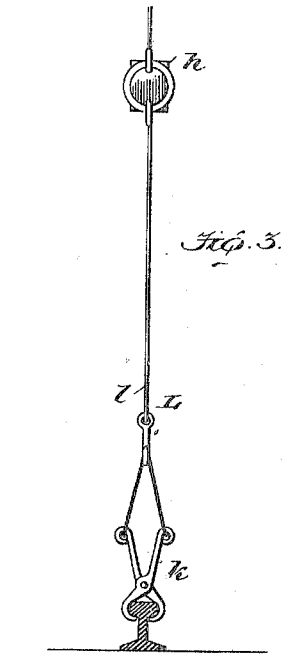


Fig. 3.

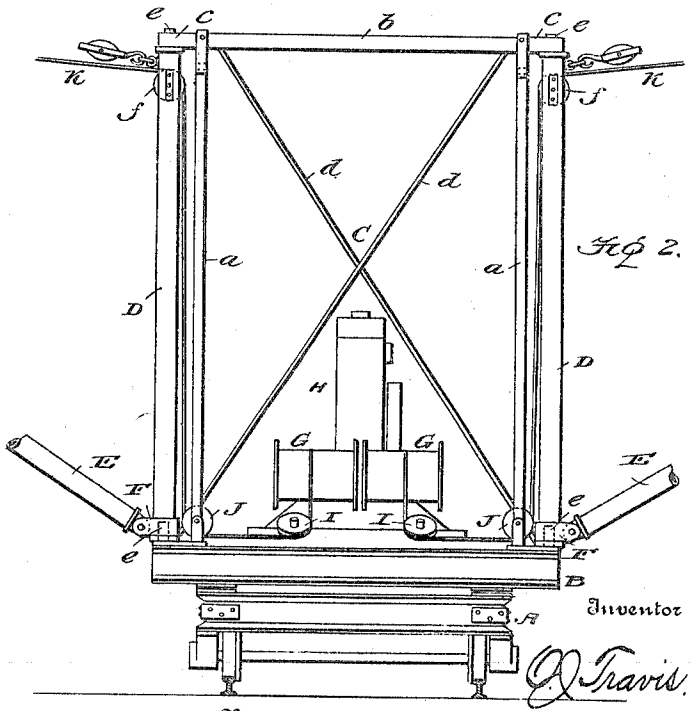


Fig. 2.

Witnesses

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LOADER AND UNLOADER.

No. 811,973. Specification of Letters Patent. Patented Feb. 6, 1906.

Application filed July 27, 1905. Serial No. 271,494.

To all whom it may concern:

Be it known that I, OWEN J. TRAVIS, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented new and useful Improvements in Loaders and Unloaders, of which the following is a specification.

My invention pertains to loaders and unloaders; and it contemplates the provision of a simple and efficient apparatus designed for transferring goods, particularly railway-rails, from cars to the ground at either side of the cars, and vice versa, and adapted to be operated to advantage by but a few men.

The invention will be fully understood from the following description and claims when taken in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is a broken side elevation of the apparatus constituting the present and preferred embodiment of my invention. Fig. 2 is a front elevation of the apparatus with parts broken away, and Fig. 3 is an enlarged end elevation of the grapple which I prefer to employ when the apparatus is used for loading and unloading rails.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A is a car-body, preferably a steel frame, arranged on standard-gage trucks, and B is a horizontally-swinging frame, preferably of steel, which bears on a turn-table on the body A in such manner that it is adapted to be turned completely around, so as to reverse the booms presently described.

C is a frame fixed with respect to and rising from one end of the horizontally-swinging frame B and formed by preference of steel. This upright fixed frame is preferably made up of uprights *a*, a crown-bar *b*, fixed to the upper portions of said uprights and extending beyond the same, as indicated by *c*, and crossed braces *d*, extending between and fixedly connected to the frame B and the crown-bar *b*.

D D are turn-posts, preferably of gas-pipe, having journals *e* at their ends bearing in the frame B and the extended portions *c* of the crown-bar *b*, whereby they are adapted to turn on their axes, and also having sheaves *f*, located adjacent to their upper ends.

E E are booms, preferably of gas-pipe, connected through the medium of couplings F with the lower portions of the turn-posts D in such manner that they are adapted to swing horizontally when the posts are turned and are also adapted to swing vertically independent of the posts.

G G are drums mounted on the frame B in the conventional or any other approved manner and adapted to be independently rotated.

H is a motor, preferably a gas-engine, arranged on the frame B and from which the drums G derive motion through the ordinary or any other suitable driving connections, which I have deemed it unnecessary to illustrate.

I I are sheaves located on the frame B in advance of the drums G; J J, sheaves carried by the lower portions of the uprights *a* of frame C, and K K cables designed to be wound on the drums G and passed therefrom around the sheaves I, J, and *f* in the order named and then over sheaves *g*, provided on the booms E at points adjacent to the free ends thereof. At their ends remote from the drums G the cables are provided with means for taking hold of the goods or articles to be loaded or unloaded, and as my present apparatus is designed more particularly for handling railway-rails I have shown the cables, or at least one of them, as provided with a grapple L. This grapple comprises a top bar *h* and tongs *k*, connected through hangers *l* with the top bar, and it is obviously adapted to be quickly and easily placed in secure engagement with a rail, Figs. 1 and 3, and as readily disengaged from the rail.

In virtue of the construction thus far described it will be apparent that the booms E are adapted to be swung horizontally independently of each other, and hence the apparatus is adapted to pick up and unload rails on both sides of the track on which the car-body A is arranged at the same time. It will also be apparent that through the medium of the drums G, cables K, and grapples L rails may be raised and lowered quickly and without effort on the part of the attendants of the apparatus. It will further be apparent that when rails are suspended from the booms the booms may be swung horizontally to carry the rails to or from a position above a car with but a minimum amount of effort on the part of the attendants.

For the purpose of retaining the booms E at the angle of inclination desired I prefer to employ in connection with the booms cables M, one of which is shown in Fig. 1. The said

cable is connected at one end to a pulley-block *m*, attached to the free end of one boom E, and is then passed through a pulley-block *n*, attached to the adjacent turn-post D, after which it is passed through the before-mentioned pulley-block *m* and again through the pulley-block *n* and is fastened at *p* to a cleat or the like on the said post D. It will be gathered from the described arrangement of the cable M that the said cable may be used to raise or lower its complementary booms E, as well as to retain said boom against downward movement in the position desired.

In the practical use of my novel loader and unloader the same is designed to be arranged on rails on the cars of a train, and it is employed to load a train of cars at one time, the apparatus being moved back as each car is loaded until the entire train or as many cars thereof as desired are loaded. In the event of some of the cars of the train being coal-cars track-ties are placed from side to side of the coal-cars and rails are placed on said ties to form a track, to which the loader is carried by inclined rails from the flat-cars or from the ground.

Notwithstanding the efficiency of my novel apparatus it will be apparent that the same is simple and inexpensive in construction and is well adapted to withstand the rough usage to which loaders and unloaders are ordinarily subjected.

I claim—

1. In a loader and unloader, the combination of a body, a horizontally swinging or turning frame mounted on said body, an upright frame fixed to and rising from one end of said horizontally swinging or turning frame upright turn-posts mounted in the horizontally-swinging frame and the upright frame so as to rotate about their axes; said posts being arranged adjacent to opposite sides of the horizontally swinging or turning frame, booms connected to the turn-posts so as to swing horizontally with same, cables complementary to the booms for raising and lowering goods thereon, and means on the horizontally swinging or turning frame for taking up and letting out the cables.

2. In a loader and unloader, the combination of a wheel-supported body, a horizontally swinging or turning frame mounted on said body, an upright frame fixed to one end of said horizontally swinging or turning frame, upright turn-posts mounted in the horizontally-swinging frame and the upright frame so as to rotate about their axes, booms connected to the turn-posts so as to move horizontally with the posts and swing vertically independent of the same, adjustable connections intermediate the turn-posts and the booms for holding the latter against downward movement, cables complementary to the booms for raising and lowering rails or other goods thereon, and means on the horizontally swinging or turning frame for taking up and letting out the cables.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

OWEN J. TRAVIS.

Witnesses:
H. G. SWEET,
C. W. CLAPP.