

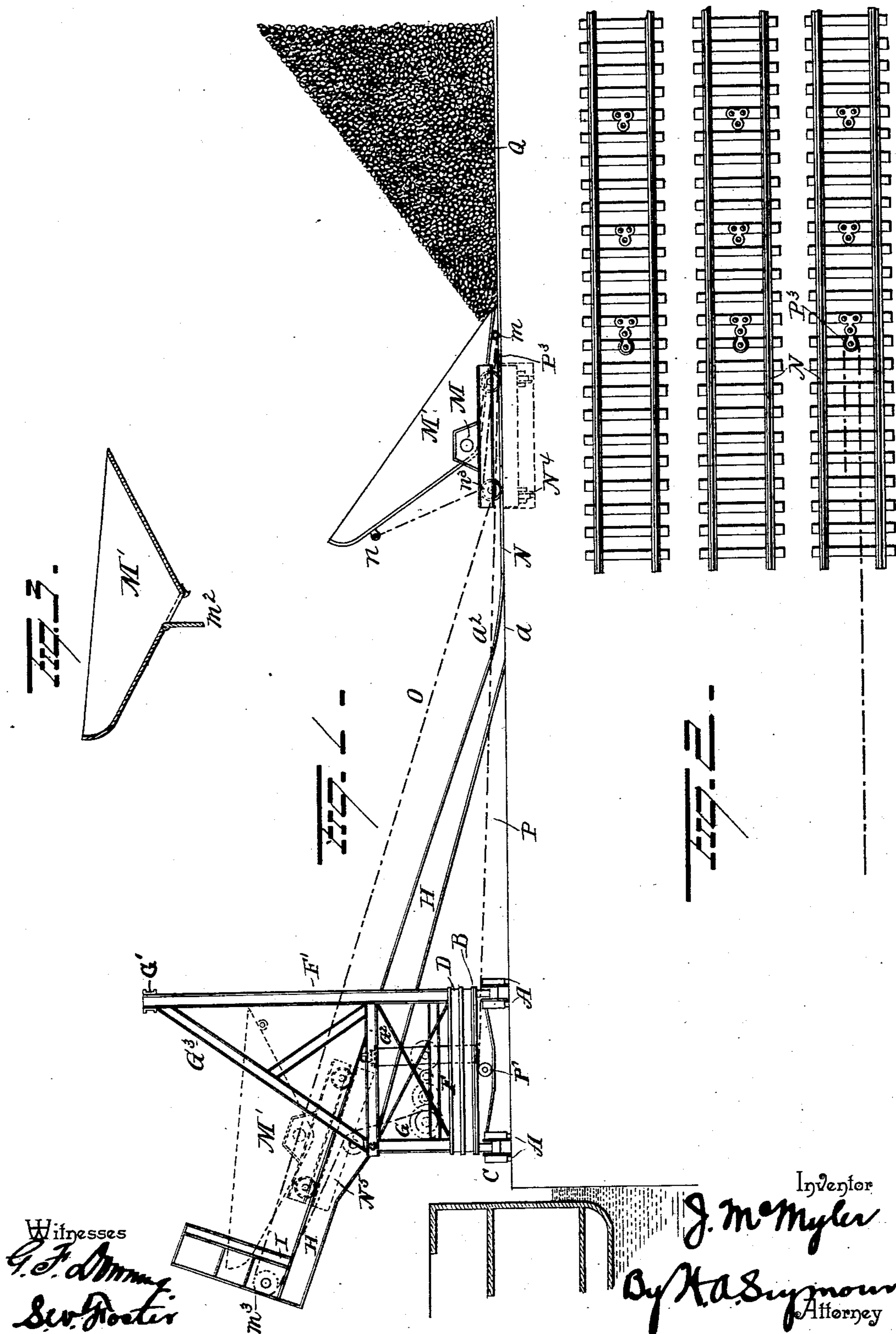
(No Model.)

J. McMYLER.

PORTABLE DEVICE FOR LOADING VESSELS.

No. 568,869.

Patented Oct. 6, 1896.



UNITED STATES PATENT OFFICE.

JOHN McMYLER, OF CLEVELAND, OHIO.

PORTABLE DEVICE FOR LOADING VESSELS.

SPECIFICATION forming part of Letters Patent No. 568,869, dated October 6, 1896.

Application filed October 31, 1894. Serial No. 527,571. (No model.)

To all whom it may concern:

Be it known that I, JOHN McMYLER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Portable Devices for Loading Vessels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in portable devices for loading vessels with coal or other material, but particularly hard coal, &c.

In order to keep the mines open and the cars in use in the winter when navigation is closed, it is the practice of the producers to mine the coal and transport it to the seaboard and there discharge the coal by means of suitable elevated carriers into piles. The coal accumulated at a shipping-port during one season forms immense piles convenient to the docks, and when navigation opens has been loaded into vessels by various means.

My invention relates to improved means for loading vessels; and it consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of my apparatus. Fig. 2 is a plan view of one of the permanent tracks, and Fig. 3 is a view in section of one of the cars.

A represents a railway constructed to receive the truck B, which latter is mounted on wheels C and is adapted to travel back and forth parallel to the pier or water-front, as shown. This truck B is provided on its upper face with a bearing or way for the rollers D. Resting on the rollers D and secured to the truck by a suitable king-bolt or equivalent is the rotary platform F, which latter carries a suitable engine and boiler or electric or other motors for actuating the drums and other movable parts. The platform is rotated by means of the rack and pinion ordinarily employed for that purpose, and is provided with the uprights F' and G, the former being considerably longer or higher than the latter and connected thereto by the braces G³ G². The two shorter uprights G are connected together at the tops and at intermedi-

ate points, if desired, while the uprights F' are also connected at their tops by the braces G'.

Pivotaly mounted on the upper ends of the shorter uprights G is the inclined platform H, which latter consists of preferably two parallel girders located a proper distance apart and connected at intervals throughout their length, forming in effect a platform. The platform thus formed is provided with rails and is curved, as at a^2 , and is beveled at a , so that when in the position shown in Fig. 1 the beveled ends of the rails will rest against or on the rails of surface track N and form a continuation thereof, so that a car on the surface track can, by the mechanism to be hereinafter described, be drawn up the inclined platform, discharged of its contents, and lowered onto the same or onto another track.

The platform H is preferably pivoted to one side of its longitudinal center, as shown, and is provided at its outer or shorter end with a bumper or buffer I, and carries between the girders a sliding trough into which the coal or other material falls as it discharges through the bottom of the car. This trough can be moved in and out for directing the coal to any part of the hold of the vessel.

M represents the car, which consists, essentially, of a truck mounted on wheels and a body M' pivotaly secured to the truck. This body is preferably scoop-shaped, its forward portion, or the portion which enters the mass of coal, being preferably flat and provided with rollers m , designed to run on the rails of the track N or other convenient support and thus bring the entering end of the body M' well down to the surface, so as to take up the coal approximately from the level of the trackway. The bottom of the car-body when in position for scooping up the coal is preferably inclined downwardly from its pivotal point to its outer end, as shown in Fig. 1, which prevents the possibility of the body tilting rearwardly while entering the mass of coal.

The body M' is also provided, preferably near its lowest point, with a drop-bottom m^2 , through which the coal is discharged into the trough above referred to.

The car M is connected by rope, chain, or other convenient means O with a suitable

drum, actuated by a motor, the drum and motor within, or both, being located either on the tilting platform or on the rotary platform. I prefer, however, to locate the drum on the rotary platform, as disclosed in the Hulett patent, No. 516,053, granted March 6, 2894, and with such an arrangement the rope would pass from the car M up and around pulley m^3 , and from thence down to the drum on the rotary platform. The rope O is connected to the car at a point n , and from thence it passes downwardly around a sheave n^3 up and around pulley m^3 , as previously described.

From the foregoing it will be seen that after the car has been loaded power applied to rope or cable O will first turn the body to approximately horizontal position, after which it is drawn up the inclined platform to the position shown in dotted lines. When a car having an inclined bottom, with a drop gate or bottom therein such as described, is employed, I release the gate by hand or otherwise when the car reaches the upper end of the tilting platform and allow the coal to discharge into the trough. After the coal has been deposited in the trough I tilt the inclined platform by suitable mechanism and allow the coal in the trough to fall into the hold of the vessel. When, however, a car is employed which would not discharge all or a portion of the coal into the trough before the platform has been tilted, the platform can be first tilted and the contents discharged by then dropping or withdrawing the gate.

After the platform has been lowered to its normal position, as shown in Fig. 1, the car descends by gravity to the bottom of the inclined track and is then attached to the rope, cable, or chain P, which latter leads from a drum P' , located on the truck B or platform F under the platform H and through a pulley-block P^3 , removably secured between the rails of a track N. A series of these tracks N are located side by side under the mass of coal Q from one side of the mass to the other, and each trackway is preferably provided at intervals apart with the rings or hooks p , to which the pulley-block p^3 can be secured in advance of the car. As the car reaches the bottom of the incline the chain P is hooked to the truck, preferably at its rear end, as shown, and after the entering end of the body has been lowered the car is forcibly pulled into the mass of coal. After it has been drawn into the mass sufficiently far to fill the body the body is turned upwardly, and after being withdrawn from the mass, as before described, the chain or cable P is detached and the car drawn to the top of the tilting platform and discharged of its contents.

After the coal has been removed from one track N the machine is shifted to the next track, and so on throughout the entire mass, thus enabling me to remove practically all the coal without shoveling. Instead of having the chain or cable P detachably secured to rings, hooks, or other attaching devices

between the rails, it could pass through conduits between or under the rails, and thus enable the mass to be worked through from one side to the other without readjustment of the cable. Located at right angles to the tracks N is a depressed trackway N^4 , on which travels a truck carrying scales. The platform of the scale is provided with rails designed to register with trackway N and with the rails on the platform H. When the truck B carrying the tilting platform H is moved from one trackway N to another, the scales are also shifted, thus enabling me to weigh each car-load of coal before it is discharged into the hold. Instead of locating the scales adjacent to the trackways N, it can be located on the tilting platform, as shown at N^5 . When so located, it would be provided with a hopper-bottom through which the coal would pass to the trough.

Any suitable means for actuating the tilting platform and for moving the truck B may be employed, but I prefer to use the devices disclosed in the Hulett patent above referred to.

While a tilting platform is desirable it might be dispensed with. Hence I would have it understood that my invention comprehends, broadly, a wheeled truck carrying a pivoted scoop-shaped car-body, combined with means for forcibly entering the scoop into a mass of coal or other material and withdrawing it therefrom.

It is evident that numerous changes might be resorted to in the general arrangement and combinations of parts without departing from the spirit and scope of my invention. Hence I would have it understood that I do not limit myself to the exact construction set forth; but,

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

1. The combination with a movable truck, and a scoop-shaped car pivoted thereto, of a flexible line attached to the truck passing around a pulley in advance of the truck and then rearwardly to a point behind the truck for forcing the scoop into a mass of coal and means for withdrawing the scoop from the mass of coal, substantially as set forth.

2. The combination with truck and a tilting platform pivoted at a point between its ends to said truck, of a truck adapted to travel on said tilting platform, a scoop-shaped car mounted on the truck and means for forcing the scoop into a mass of coal and means for drawing the truck with the scoop thereon back onto the tilting platform.

3. In combination with a truck and a tilting platform thereon, a scoop-shaped car mounted on a truck, means for forcing the scoop into a mass of coal, means for drawing the truck with the scoop thereon onto the tilting platform and means for tilting the platform.

4. The combination with a movable device having a trackway thereon and a series of

tracks located side by side, the movable track-
way adapted to register with any one of the
series of tracks, of a truck, a scoop-shaped
car pivoted thereto, a flexible line attached
5 to the truck, passing around a pulley in ad-
vance of the truck and then rearwardly to a
point behind the truck whereby the truck
with the scoop thereon is forced from the
movable track into a mass of coal covering
10 any one of the series of tracks and means for
withdrawing the scoop from the mass of coal,
substantially as set forth.

5. In combination with a truck and a tilt-

ing platform thereon, a scoop-shaped car piv-
otally mounted on a truck, means for forcing 15
the car into a mass of coal, and means for
turning the car-body to a horizontal position
and for drawing it onto the platform.

In testimony whereof I have signed this
specification in the presence of two subscrib- 20
ing witnesses.

JOHN McMYLER.

Witnesses:

S. G. NOTTINGHAM,
A. W. BRIGHT.