

J. M. THOMPSON.
Dumping-Cars.

No. 147,880.

Patented Feb. 24, 1874.

Fig. 1.

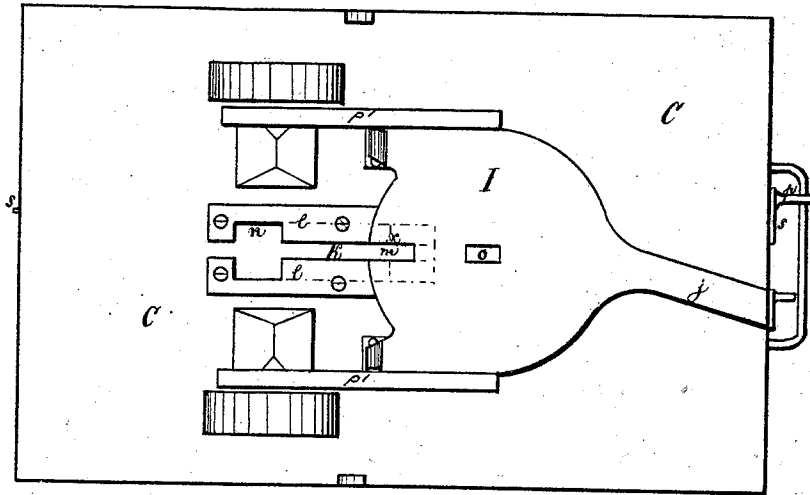


Fig. 2.

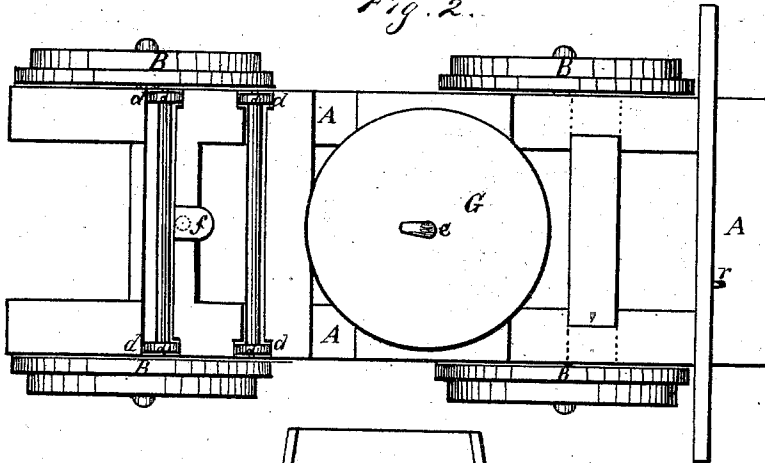
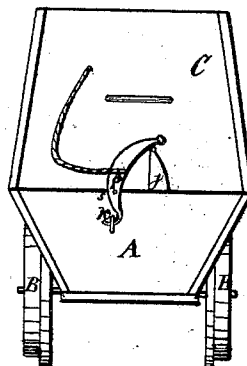


Fig. 3.



Witnesses

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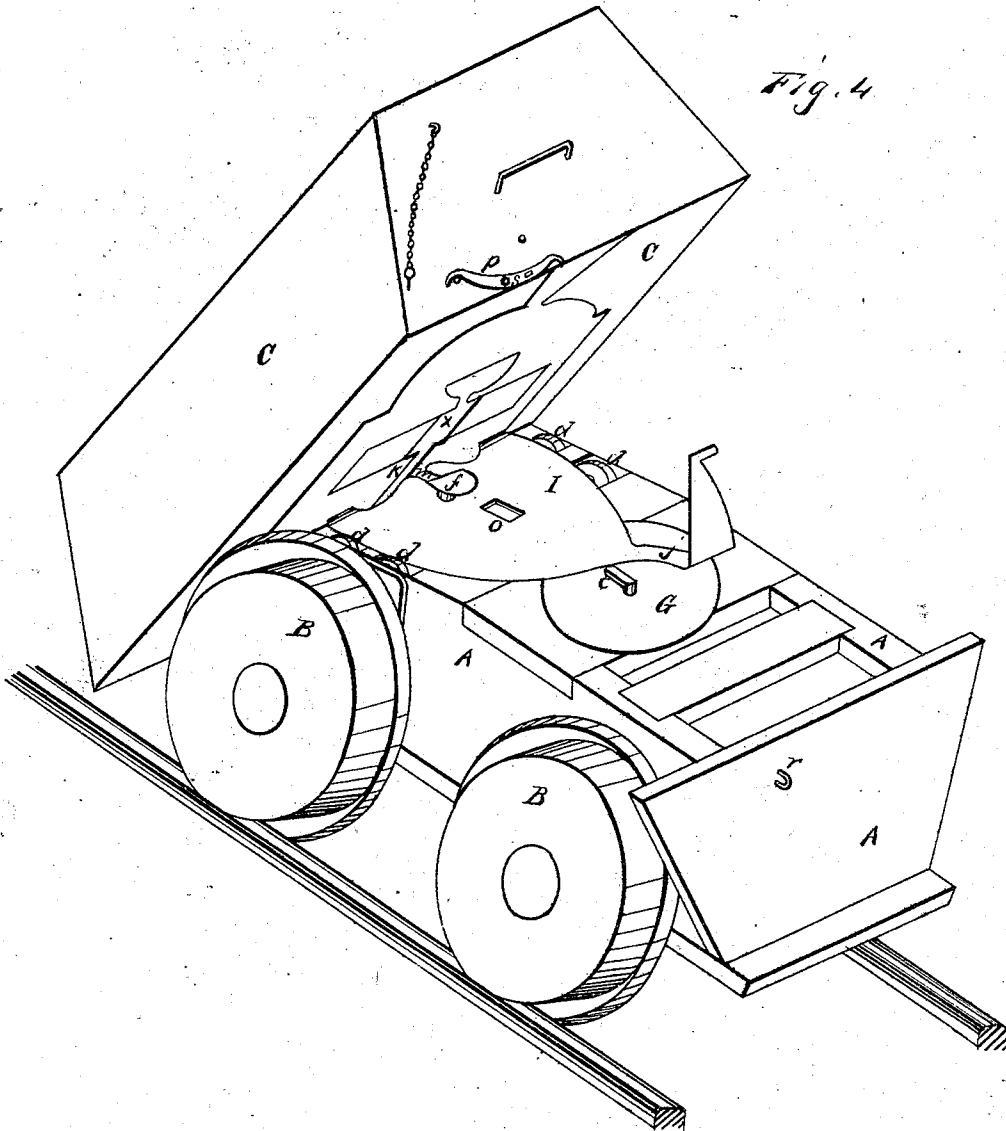
Inventor

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UNITED STATES PATENT OFFICE.

JAMES M. THOMPSON, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN DUMPING-CARS.

Specification forming part of Letters Patent No. 147,880, dated February 24, 1874; application filed April 12, 1873.

To all whom it may concern:

Be it known that I, JAMES M. THOMPSON, of San Francisco city and county, State of California, have invented an Improved Mining and Tunnel Car; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to that class of dumping-cars which are used in mines for conveying ore and rock to a dump or place of deposit. These cars are made small enough to move through the tunnel of the mine upon a suitable track, and are usually propelled by hand, both in carrying the ore and in moving back to receive a fresh load. My improvements consist in a greatly-improved arrangement for dumping the contents of the bed, and by which the dumping can be accomplished at the front or either side of the car, as desired.

In order to explain my invention so that others will be able to understand its nature and operation, reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1, Sheet 1, is a bottom view of the car-box. Fig. 2, Sheet 1, is a plan view of the car-frame and wheels. Fig. 3, Sheet 1, is an end view. Fig. 4, Sheet 2, is a perspective view.

A represents the car frame or truck, and B the supporting-wheels, which move upon an ordinary railway-track. The truck or frame A is strongly framed together in the usual way, and its upper surface, upon which the bed C rests, is a little higher than the upper edge of the wheels B. The upper surface of this frame is level, except a short portion near its front end, where it is inclined at a slight angle downward toward the front of the truck, as shown. Small wheels or rollers *d d* are secured at each side of the frame at the forward end of the car, so that their upper edges will stand a little above the plane of the angular portion. These rollers serve to facilitate the dumping of the load to the front of the car, as will be hereinafter described. In the center of the frame A

a strong hook, *e*, is secured so that its hooked end will point toward the front end of the car, while another hook, *f*, is secured to the forward end of the car with its hooked end pointing toward the rear end of the car. This hook *f* has a broad head, to the middle of which the stem is secured, thus leaving a flange upon each side, as shown. A circular table, G, can be placed around the central hook *e*, if desired, in order to facilitate the turning of the bed. The bed C is made wider at the bottom than at the top, as shown, its sides sloping outward from the top down, thus forming a box, the outline of whose section is a trapezoid. I is a strong sheet or boiler iron plate, which has one end hinged to the bottom of the box at or near its middle. An arm, *j*, extends from the plate I to the rear of the bed, where its extremity is bent upward, as shown. The bottom of the box can be recessed to correspond with the shape of the plate I and its arm *j*, so that when the plate is turned down against the bottom an even surface will be formed. A groove or channel, K, is made longitudinally in the under side of the bottom of the bed, midway between its sides, which extends a short distance to each side of the middle of the bottom, one end of the groove terminating below the plate I. A narrow metal strip, *l*, is secured upon the opposite edges of this recess, so as to extend out over the groove and leave a narrow slot between them, but these strips are shorter than the slot, thus leaving a portion, *x*, at the end of the groove, which is below the plate, of its original width. A slot, *m*, is also made in the edge of the plate I directly above the slot formed by the edges of the strips *l*, and of the same width. A portion is removed from the opposite edges of the strips near the opposite end, so as to form an enlarged opening, *n*. In the center of the plate I is an elongated opening or hole *o*. The bed is placed upon the truck A so that the hook *e* will enter the hole *o* in the plate I, and when thus placed the flange-headed hook *f* will be directly below the opening *n*, which communicates with the groove K. Suitable grooves *p' p'*, in the bottom of the bed, will be provided above the rollers *d*, in which they will traverse in order to guide the bed. The bed can be fastened to

the truck by a lever-hook, *p*, at the rear end of the bed, which hooks into an eye, *r*, on the truck.

To dump the contents of the car to the front, it is necessary to lift the rear end of the car until the flange-head of the hook *f* enters the opening *n* at the end of the groove *K*. The bed is then pushed forward, the rollers *d d* permitting it to move down the incline freely until the flanged head has passed through the groove *K*, and its stem has entered the slot *m* in plate *I*. The flanged head being freed from the groove *K* at the open end of the slot, is caught by the plate *I*, and the bed will then be in position to be readily tipped so as to discharge the load, the plate *I* being held by the hook *e*, while the hinges at the opposite end allow the bed to tip. After the load has been discharged the bed is tipped back until it rests upon the plate *I*, which again enters the flanged head into the groove, ready to allow the bed to be pushed back to its original position.

When it is desired to dump the load upon either side, the bed is rotated around upon the hook *e* as a center until it stands at right angles to the truck. The hook or pivot *e* being between the middle and rear end of the car, the point at which the bed is hinged to the plate will be brought to the side of the truck so as to permit the bed to be dumped in the same manner above described for the front dump.

It will be noticed that the hook *e* locks itself to the plate *I* as soon as the bed begins to turn upon it, owing to the shape of the slot or hole *o* in which it moves, thus preventing the bed from shifting from its proper place while it is being turned, and holding the plate *I* firmly in place during the dumping. As soon as the load is dumped the bed is raised to its horizontal position again, and rotated back to its proper position.

Any suitable style of fastening can be employed for securing the bed to the truck; but

I prefer the lever-hook above described, and, in general, I shall attach this lever-hook to one end of a shaft, *s*, which passes through the bottom from end to end, and to the opposite or front end I will secure the button which fastens the front door when it is closed, thus providing a double-acting fastening device.

This form of bed will also greatly facilitate the unloading of the bed, as the ore will clear itself more readily from the sides as it passes out, and thus avoid the danger of the load clogging in the process of discharging, as often happens with the ordinary rectangular-formed bed, frequently causing the entire car to be precipitated over the track, and even while the load is being carried in the bed it will settle away from the sides, instead of crowding outward, as in the ordinary bed. This form of bed will also conform more nearly to the shape of the timbers in the tunnel.

The upper edge of the bed will be no more liable to strike the timbers, in case the car should oscillate, than the ordinary bed, while its lower or wide edge, being nearer the ground, will clear the timbers, and in case of oscillation will move nearly in a perpendicular direction without striking.

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

The car-bed *C*, made wider at the bottom than at the top, and having the groove *K*, with an uncovered end, *x*, overlapping strips *l*, opening *n*, and hinged plate *I*, with its arm *j* and slots *m o*, in combination with the truck-frame *A*, having the central hook *e* and flange-headed hook *f*, all constructed to operate as set forth.

In witness whereof I hereunto set my hand and seal.

JAS. M. THOMPSON. [L. S.]

Witnesses:

JOHN L. BOONE,

C. M. RICHARDSON.