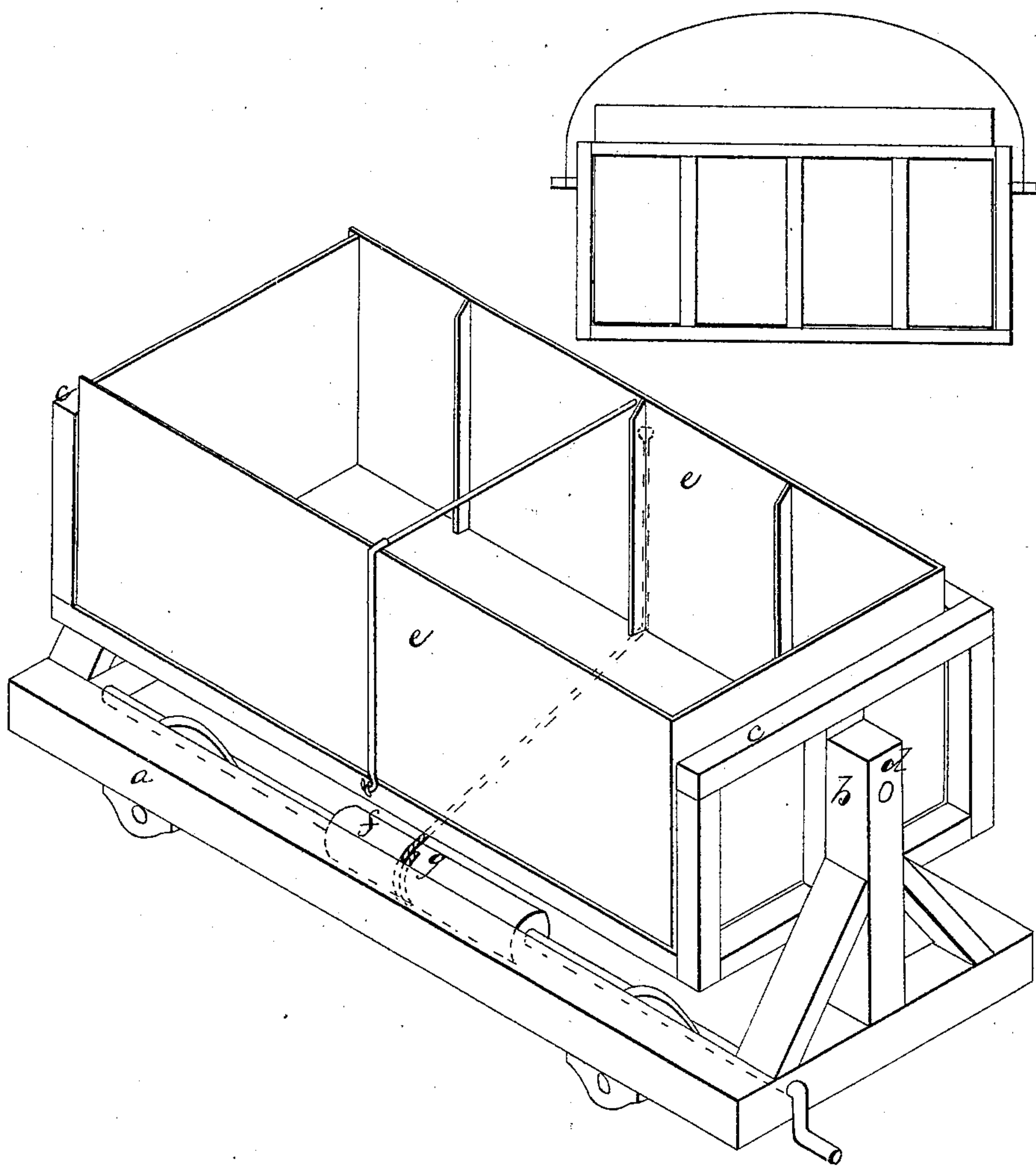


Elgar & Hollowell,
Unloading Coal Boats.
N^o 6,303. Patented Apr. 10, 1849.



UNITED STATES PATENT OFFICE.

JOHN ELGAR, OF BALTIMORE, MARYLAND, AND BENJAMIN HALLOWELL, OF
ALEXANDRIA, VIRGINIA.

REVOLVING CRADLE FOR UNLOADING CANAL-BOATS OR SECTIONS THEREOF.

Specification of Letters Patent No. 6,303, dated April 10, 1849.

To all whom it may concern:

Be it known that we, JOHN ELGAR, of the city of Baltimore and State of Maryland, and BENJAMIN HALLOWELL, of the town and county of Alexandria and State of Virginia, have invented a new and useful Improvement in the Mode of Discharging Coal from Canal-Boats, for which we desire to obtain Letters Patent, and that the following is a description of our improvement in full, clear, and exact terms.

The usual mode of discharging coal from canal-boats either upon land or into another vessel, by the use of the shovel, is tedious and expensive, and far inferior in all respects to the mode of discharging from railway cars, when a trap-door in the side or bottom of the car is used to discharge at once the entire load.

The object of our invention is to make it nearly, if not quite as easy to discharge a canal boat as a rail way car of its load of coal.

A rail-way car is always above the place on which it is desired to empty its load,—a canal boat is always below such place. In the one case the coal is discharged downward with the aid of gravity. In the other it has to be thrown or lifted upward—overcoming gravity. The thing to be accomplished therefore is, to raise the canal boat above the place on which its load is to be emptied, and to provide facilities for emptying it without the shovel; when this is accomplished the car and boat will be upon a par, in regard to the ease and cost of discharging them of their loads.

In order to raise the boat above the place at which its load is to be discharged, it is desirable that the boat should be a short one, or, if of the usual length, it be divided into sections, like those used on the Pennsylvania canals and railroads,—though our improvement is intended to embrace, and to be, in some cases, applied to boats of the usual length. The boats, or sections of boats, when arrived at their place of destination in the canal basin, are to be floated into cradles supported on railway trucks, which in their turn, run upon a track, laid at the bottom of the basin and continued by a suitable grade out of the water and upon the wharf or other place of discharge of the coal. Such tracks are well known on the Pennsylvania canal, where the section boats are transport-

ed on railway-trucks across mountains, and in Philadelphia, and elsewhere. The Pennsylvania boats however, rest directly upon the frame of the truck when taken from the water. In our invention the boat, or section of a boat is received into a cradle which the truck supports, and which is constructed in the following manner:—In each end of the truck-frame is fixed a strong upright stud, and between these studs hangs the cradle, which is open frame-work, with a bottom, two ends, and but one side, the other side being left out, so as to allow the boat or section to be floated sidewise into the cradle. There is a strong gudgeon fixed in each end of the cradle, which has a bearing in the stud, and which bearing is placed so high as to permit the cradle to swing clear of the bottom-framing of the truck. The gudgeons are placed so near the center of gravity of the cradle and loaded boat, or section, as to permit the whole to be turned over sidewise without difficulty, after the truck is drawn from the water, when the coal is discharged over the side of the boat wherever desired. The boat is secured in the cradle by a movable hook, while being emptied, and the cradle and boat is tilted by being rocked on its gudgeons with a rack and pinion or by a chain and windlass.

We have thus far spoken of a rail-way truck, as carrying the cradle to receive the boat, or section, and raising it above the place at which the coal is to be discharged. But our invention is not confined to the use of a rail-way-truck for this purpose. The revolving cradle may be attached to the arm of a crane, and having been lowered by the machinery of the latter into the canal basin, and there received the boat or section, may be lifted by the same machinery, and swung around above the place at which the coal is to be discharged.

The boats, or sections, may be loaded on trucks without cradles at the mines, and run from thence on rail-ways to the canal, and drawn upon it to their destination, and be there discharged, in the manner described, without more handling of the coal than is required where it is transported altogether on rail roads.

The following letters refer to the several parts of the annexed drawing: (*a*), the truck; (*b b*), the studs (*c*), the cradle; (*d d*), the gudgeons; (*e*), boat, or section; (*f*),

windlass; (g), chain, or rope, for tilting the cradle.

We do not claim as a platform on which to support the boat or section thereof, any of the dumping-cars, now in use, none of which would permit the boat or section to be turned completely up side down while resting thereon, nor do we claim suspending the boat or section thereof from a crane without the intervention of a cradle; but

What we do claim as our invention and desire to secure by Letters Patent, is—

A revolving cradle suspended on gudgeons,

to receive and securely hold a boat, or section thereof, said gudgeons being attached either to a rail road truck, or the bale of a crane, or other hoisting machinery, in such a manner that the cradle may be revolved to such an extent as to turn the boat or section upside down, substantially as described in the within specification.

JOHN ELGAR.

BENJN. HALLOWELL.

Witnesses:

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GEO. WHITE.